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Attachment 1

EXHIBIT 1

Final Adopted Findings of California Coastal Commission, Appeal No. A-3-MRA-19-0021 Application No. 9-20-0603.

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Appeal Filed:	May 22, 2019
49th Day:	Waived
Permit Filed:	September 1, 2022
180th Day:	February 28, 2023
Staff:	T. Luster-SF
Staff Report:	November 4, 2022
Hearing Date:	November 17, 2022 (Th7a &Th8a)

Commission Vote on De Novo Appeal:	7-3
Commission Vote on CDP:	8-2

FINAL ADOPTED FINDINGS
DE NOVO APPEAL HEARING
and
CONSOLIDATED COASTAL DEVELOPMENT PERMIT

Appeal No:	**A-3-MRA-19-0034**
Local Government:	City of Marina
Decision:	Approval with Conditions
Application No.:	**9-20-0603**
Applicant:	**California American Water Company**
Appellants:	**California American Water Company, Brian LeNeve, Castroville Community Services District, and Commissioners Howell and Uranga**
Project Location:	Wellfield at the site of the CEMEX, Incorporated sand mining facility in the City of Marina, Monterey County, and pipelines and associated infrastructure within the Cities of Marina and Seaside, the County of Monterey, and the Commission's retained jurisdiction.
Project Description:	Construct and operate a slant well field, associated water transmission pipelines and related infrastructure within the coastal zone to support a proposed desalination facility located inland of the coastal zone.
Commission Action:	Approval with Conditions of De Novo Permit and Approval with Conditions of Regular Permit

SUMMARY OF COMMISSION ACTION

The California-American Water Company ("Cal-Am") is proposing to construct and operate desalination components of its overall Monterey Peninsula Water Supply Project ("MPWSP") that would consist of a desalination facility, a well field, water transmission pipelines, pump station, and other related infrastructure (the "Project"). The proposed Project would provide potable water for customers in Cal-Am's service area in the Monterey Peninsula region, which has experienced decades of water shortages resulting from drought, of groundwater sources, seawater intrusion, proposed supply projects not being completed, and other causes. The Monterey Peninsula region faces unique water supply challenges that are likely to be exacerbated by climate change.

Cal-Am began planning efforts for additional water supply sources more than 20 years ago, with this current MPWSP Project being developed over the past decade. The MPWSP is meant to address longstanding water supply constraints in the region and to provide an alternative water supply for Cal-Am to rely on instead of its overwithdrawal of water from the Carmel River, which the State Water Resources Control Board ordered to be stopped by December 2021.

The overall MPWSP involves several major components – including the Pure Water recycling project, an aquifer storage and recovery ("ASR") project, and a desalination facility. The desalination components of the MPWSP would be located both within and outside the coastal zone. The desalination components within the coastal zone and subject to this Commission review are the proposed desalination facility's source water wells, which would extract water from beneath the Monterey Bay seafloor and sections of various proposed pipelines that would distribute water throughout the Project to Cal-Am's ratepayers in the Monterey Peninsula area distribution system and to the City of Castroville. The proposed Project would be located in several coastal zone jurisdictions and the Commission is conducting a consolidated permit review for those components within the certified Local Coastal Program ("LCP") jurisdictions of the City of Seaside and the County of Monterey, as well as within the Commission's retained jurisdiction in an area of deferred certification within the County, and for components seaward of the mean high tide line. The Commission is also considering multiple appeals of the City of Marina's denial of a CDP application for the well field and portions of two of the pipelines within the City's certified LCP jurisdiction.

Cal-Am is proposing phased construction of the Project. It seeks authorization to construct a smaller initial phase of the Project that would produce 4.8 million gallons per day ("mgd") per year. Construction of the full sale of the Project at 6.4 mgd per year would occur in a second phase only if Cal-Am can demonstrate a need for the additional water supply and demonstrate that the first phase has been operating in a manner that is protective of local groundwater supplies and nearby wetlands. At the Project's maximum build-out, it would include up to six new slant wells to be located within a Cal-Am easement in part of the CEMEX sand mining facility near the Monterey Bay shoreline in the City of Marina. The Project would also include conversion of a test slant

well to a permanent well on the same site, as well as four main pipelines, with part of each in the coastal zone. The desalination facility itself would be constructed inland of the coastal zone and would discharge processed saline brine to an existing outfall operated by the regional wastewater treatment agency, Monterey One Water ("M1W"). This outfall line would need to be modified in order to discharge the brine.

The proposed Project has a controversial history involving multiple agency reviews, spawning at least 10 lawsuits, including several against the California Public Utilities Commission, and raising significant environmental justice concerns. The Commission is not the first agency to review whether the Project should be constructed, nor will it have the final say on the issue, as several other agencies are concurrently and independently reviewing the Project, including the CPUC and the State Water Resources Control Board. Some issues within the Commission's review jurisdiction overlap with issues under consideration by other agencies, but the Commission's determination on those overlapping issues does not legally bind the other agencies (and vice versa).

This is the Project's third scheduled hearing before the Commission. The first was in November 2019, when the Commission took no action but directed Cal-Am and staff to provide additional information and answers to a number of Commissioner questions before bringing the matter back for consideration. Staff scheduled another hearing for September 2020, which did not proceed because Cal-Am withdrew its permit application shortly before the hearing date (and the de novo appeal was continued). Staff's recommendation at that time was that the Commission should deny the proposed Project, as staff had identified a feasible and less environmentally alternative to the Project – i.e., an expansion of the existing Pure Water project (the "Pure Water Expansion").

After September 2020, Cal-Am made several Project modifications to address some of the previously identified concerns. As noted, Cal-Am now proposes a phased construction where the first phase has a smaller Project footprint. This phased approach would reduce ESHA impacts and potential impacts to groundwater in the initial phase (and permanently if the second phase is not constructed). Another significant development since 2020 is that after Commission staff identified the Pure Water Expansion as a feasible alternative in 2020, a CPUC proceeding was initiated, which is ongoing and in which no party disputes approval of the Pure Water Expansion project. In September 2022, the CPUC issued a proposed decision to approve the Pure Water Expansion based on near-term supply and demand estimates. As part of that proceeding, the CPUC will also consider longer term supply and demand estimates and whether additional water supplies will be needed beyond what the Pure Water Expansion will provide. Staff believes that the updated water demand and supply estimates and projections reasonably demonstrate that Cal-Am's Project is likely to be needed at some point during the current 20-year planning period for future demand and supplies.

The proposed Project raises extremely difficult and complex coastal resource issues, particularly regarding the Project's substantial impacts to environmentally sensitive habitat areas ("ESHA"), potential impacts to area wetlands, and potential groundwater impacts to aquifers that are a source of drinking water for the City of Marina and the Marina Coast Water District. The Project also involves the most significant environmental justice concerns the Commission has considered since it adopted an Environmental Justice Policy in 2019.

The record contains competing views regarding groundwater impacts, water demand and supply projections, potential wetland impacts, and the rights to, and availability of, source water for the Project. The communities affected by the Project, along with the elected Board members of the various water districts, are divided about the Project. As discussed in the Findings below, Commission staff believes that uncertainty surrounding these issues can be addressed through a number of prior-to-issuance conditions.

One of the most significant changes from 2020 is the increased pressure from the historic drought for new sources of water in a region already struggling with longstanding, critical water shortages. The three-year period ending in August 2022 was the driest in all of California history, according to data from the National Oceanic and Atmospheric Administration.[1] As described in these recommended Findings, it is reasonable to project that water from Cal-Am's Project will be needed as part of the area's water portfolio within the next 20 years while the Pure Water Expansion provides a feasible and less environmentally damaging alternative to Cal-Am's Project in the near term. Commission staff concludes that the Project is needed in the longer term. Ultimately, the CPUC will determine the longer-term supply and demand estimates after extensive testimony and evidence on this issue, which bears on whether the CPUC would approve the Project. Furthermore, without CPUC approval, the Project cannot proceed. Thus, the Commission's approval is conditioned on final CPUC approval for construction of the Project based on CPUC's findings of supply and demand. Moreover, if the Project does not begin construction within five years, Cal-Am must seek an extension through Executive Director approval or, if necessary, an amended CDP application through which the Commission may review any changed circumstances affecting the Project.

Coastal Act/Local Coastal Program Environmental Issues & Analysis
Key issues, and staff's analysis in support of its recommendation, are provided in these Findings and are summarized below.

Environmental Justice: As noted above, the Project raises the most significant environmental justice issues the Commission has had to address since the 2019 adoption of the Commission's environmental justice policy. At both its reduced 4.8 mgd scale and its full 6.4 mgd scale, the Project would result in the most costly water of any

[1] See NOAA National Centers for Environmental information, Climate at a Glance: Statewide Time Series, Precipitation, published October 2022 (retrieved Nov. 1, 2022), available at https://www.ncei.noaa.gov/access/monitoring/climate-at-a-glance/statewide/time-series/4/pcp/36/8/1895-2022?base_prd=true&begbas

of the desalination projects the Commission has considered recently and would involve locating some of the Project components in a community that has a long history of having a disproportionate share of industrial facilities and uses. Staff conducted in-depth analyses of these issues and identified several communities of concern that would be affected by Cal-Am's proposed Project – including the cities of Marina, Seaside, Sand City and Castroville. Overall, the analysis shows that Cal-Am's Project creates several serious environmental justice issues.

The Project's well field and some of its pipelines would be sited within the City of Marina, which is not in Cal-Am's service area but would be burdened with many of the adverse coastal resource impacts discussed herein. Marina is already disproportionately affected by other industrial uses, including a regional landfill, regional composting facility, regional sewage plant, a municipal airport, a contaminated site listed on the U.S. EPA's national priorities list, and the former CEMEX sand mining facility, which has ceased its operations. Cal-Am retains an easement over portions of the former CEMEX site, which Cal-Am proposes to use for parts of the Project. As part of settlement agreements between Cemex and the Commission, State Lands Commission, and the City of Marina, areas of the former CEMEX site not used by Cal-Am would be available for habitat restoration and public access to the shoreline. Additionally, the City and the Marina Coast Water District, which provides water to City residents, are deeply concerned that the Project would adversely affect the groundwater aquifers that the District relies on.

Cal-Am modified its Project in several ways to address some of the City and District concerns, including agreeing to a smaller footprint and phasing. The Applicant belatedly increased its public outreach efforts and offered the City a range of proposed benefits from a public access plan to tax benefits, which were largely rejected by a City that continues to oppose the Project. This includes $3 million to use for any of several enhancements or amenities the City may want to develop for its residents. Cal-Am has also modified its proposed wells so they will extend as far as feasible seaward and thereby reduce any potential impacts to the City's and District's groundwater resources. Several recommended Special Conditions also address these concerns – for example, **Special Condition 11** would require Cal-Am to construct its wells to extend as far seaward as feasible to reduce their potential groundwater impacts. **Special Condition 12** would require Cal-Am to develop a comprehensive monitoring and reporting program to detect any potential groundwater impacts its Project would cause and identify measures it would implement before those impacts occur.

Within Cal-Am's service area, there are significant concerns about how the cost of water from the Project will affect low-income ratepayers. According to Cal-Am, water from the Project is expected to increase rates by $47 to $50 per month, which would substantially raise water rates for low-income ratepayers throughout the service area, who worry that the cost of water could eventually push them out of their moderately priced coastal communities. Cal-Am offers several rate assistance programs for low-income ratepayers; however, staff found that several of the programs have eligibility requirements that create a barrier to access, have not reached all low-income

customers, and do not provide enough relief to offset the ongoing rate increases. In response, Cal-Am offered to submit proposals to the CPUC to offset the costs of the Project for low-income rate payers and to expand the eligibility requirements for the discount offered by its Customer Assistance Program In addition, Cal-Am proposed adding $500,000 to a United Way Hardship Fund and a cost cap that would limit any cost increases resulting from the Project to no more than $10 per month after commencement of water delivery service until it implements any CPUC-approved rate relief programs that effectively cap rate increases to no more than $10 per month for low income ratepayers. **Special Condition 16** reflects measures to effectuate Cal-Am's proposals regarding low-income ratepayer relief. This special condition also requires that Cal-Am provide an annual report to the Commission that discusses the implementation of these measures.

Under the Project, Cal-Am will provide discounted water to Castroville, a community of concern on the brink of collapse, according to the manager of the local water district, because its water supply from the underlying Salinas Valley Groundwater Basin has been diminished due to several decades of agricultural over-pumping resulting in increased levels of seawater intrusion. Per Basin requirements, Cal-Am is required to return the same volume of groundwater to the Basin that its Project would remove from beneath the CEMEX site, and Cal-Am would provide that water at a very low rate meant to keep Castroville's water rates affordable. That benefit would come at the expense of Cal-Am's customers, though any impacts are meant to be offset by the measures identified above that would benefit Cal-Am's lower income ratepayers.

This Project affects several environmental justice communities in the region. While the Project provides a benefit to the Monterey Peninsula by providing a secure water source and helps to avoid future overwithdrawal of water from Carmel River, it will disproportionately burden low-income ratepayers in the service area and residents in the City of Marina. Cal-Am proposed a number of measures to help offset costs to low-income ratepayers and provide community benefits for the City of Marina. These proposed measures by Cal-Am and additional conditions imposed by the Commission help to offset adverse impacts and ensure accountability. Even so some environmental justice issues related to the Project remain contentious.

Tribal Consultation

Staff consulted with representatives of Tribes with interests in the Project area, several of which have provided correspondence or have stated their interest or concerns about the Project, as described in Section IV.J below. In partial recognition of some of the concerns expressed, **Special Condition 18** is meant to ensure proper recognition and treatment of any Tribal cultural resources that may be discovered during Project activities.

Terrestrial ESHA
The Project will have adverse effects on ESHA. Its construction and operation would directly or indirectly result in several dozen acres of both temporary and permanent impacts to terrestrial ESHA, most of it consisting of relatively rare coastal dune habitat. Cal-Am has modified its proposal in several ways to avoid or reduce some of the previously expected impacts – most notably through its recent revision that would install several sections of the Project's pipelines using tunneling techniques rather than trenching, which will reduce surface ESHA impacts by up to several acres, and also through its recently proposed Project phasing, which would reduce the initial ESHA impacts at the Project's well field by about one-half acre. Many of the expected impacts are addressed through several Special Conditions that would require verification of expected Project impacts before and during construction, submittal of revised mitigation plans that fully address these impacts and provide ongoing monitoring and remediation, and other protective measures. However, even with these Special Conditions, the Project would not be fully consistent with several Coastal Act and LCP policies that do not allow the type of disturbance and loss of ESHA that would result from Cal-Am's Project. As described in Section IV.E of the Findings, staff recommends that the Commission find the proposed Project does not conform to those policies but that it apply the "override" provisions of Coastal Act Section 30260 to address these nonconformities.

Groundwater Resources
Much of the controversy surrounding Cal-Am's Project relates to whether its source water intake wells near the coast would adversely affect groundwater within the aquifers that provide the City of Marina's water supply and whether it would increase the rate of seawater intrusion in the area. Despite a lengthy process before and during the Project's CEQA review that included installing and operating a test well, collecting several years' worth of data, and developing various groundwater models, the City of Marina and others have maintained that there will be adverse effects. As part of the Commission's earlier review, staff hired an independent hydrogeologist to review some of this data and modeling and to recommend additional data collection and modeling to help reduce the levels of uncertainty about these and other potential effects. This independent review concluded that the Project would have limited to negligible effects on the rate of seawater intrusion in the area and that the groundwater "capture area" of the Project's wells would likely not extend to near the City's wells; however, it also identified two new likely effects – groundwater drawdown in areas that could potentially adversely affect nearby wetlands, and a likelihood that Cal-Am would need to return more water to the groundwater basin than had been previously considered. These are further described in the Findings and addressed through several recommended Special Conditions, including **Special Conditions 11** and **12** requiring the Project's wells to withdraw water from as far seaward as is feasible and requiring a comprehensive monitoring plan to detect potential effects on groundwater. Cal-Am's Project will also rely on the final determination of a lawsuit filed by the City of Marina regarding the amount of groundwater that can be extracted from the Project's well field site. **Special Condition 1** requires Cal-Am, prior to issuance of the CDP, to submit resolution of that

issue to the Executive Director and to submit a complete application to amend its Project if warranted.

Coastal Hazards
Cal-Am's proposed well field would be located several hundred feet inland of the shoreline, but in an area where relatively high rates of coastal erosion could endanger the wells. Projections based on the Commission's current sea level rise guidance documents show the wells could be affected by coastal erosion within the next 40 years or so and that the well heads could be buried due to the inland movement of the adjacent sand dunes by about 2040 to 2050. However, Cal-Am estimates that its wells would operate for only 20 to 25 years before they would need to be relocated due to the decreased water yields they experience as they operate. While this necessary relocation would allow the wells to avoid the expected coastal erosion and dune recession during their initial 20 to 25 years of operation, it is unclear where they could be relocated to avoid these hazards during their next cycle of operations. Cal-Am does not have legal interest in possible sites further inland, and while the wells could be moved to nearby locations parallel to the existing line of wells, that would put them at risk of coastal erosion and dune recession during the next 20-to 25-year operating cycle. **Special Condition 6** addresses these concerns by limiting the term of this CDP to no more than 25 years and requiring Cal-Am to submit a complete CDP application before the end of that term to propose relocation, rehabilitation, or removal of the wells.

Wetlands
After the Commission's November 2019 hearing, concerns emerged that Cal-Am's pumping of groundwater could result in drawdowns beneath several dozen acres of nearby wetlands and vernal ponds. While Cal-Am's CEQA review acknowledged some amount of drawdown would occur beneath these areas, it also asserted that the drawdown would not adversely affect the wetlands because they were not hydraulically connected to groundwater. However, the City of Marina and others maintain that some of these areas are dependent on the underlying groundwater. Moreover, the Commission's July 2020 independent hydrogeologic review shows groundwater elevations decreasing by as much as about four feet beneath some of these wetlands and vernal ponds. If they are connected to groundwater, this amount of drawdown could cause adverse effects to up to several dozen acres of these important habitat areas.

Cal-Am submitted its own analyses contending that its drawdowns would not affect these areas, but also recommended that additional field data and analysis be conducted to confirm this contention. **Special Condition 13** would require Cal-Am to conduct extensive monitoring and reporting that is sufficient to detect potential effects its Project may cause in those areas before they occur. With that requirement, staff believe the Project may be found consistent with relevant Coastal Act wetland and ESHA policies and LCP ESHA policies.

Coastal-Dependent Override Provision
As discussed above, staff is recommending that the proposed Project be found inconsistent with Coastal Act and LCP provisions regarding the protection of ESHA. Generally, if a project is inconsistent with LCP or Coastal Act policies, and the inconsistencies cannot be addressed by requiring mitigation or alternatives, the Commission must deny a project. However, because Cal-Am's proposed Project is a coastal-dependent industrial facility, the Commission may consider approving it despite its nonconformity with provisions of the Coastal Act and LCP.

Coastal Act Section 30260, which is incorporated into the City of Marina's LCP, provides that the Commission may approve a CDP for a coastal-dependent industrial facility that is otherwise inconsistent with other Coastal Act Chapter 3 policies if it meets a three-part test: 1) alternative locations are infeasible or more environmentally damaging; 2) denial of the permit would adversely affect the public welfare; and, 3) the project's adverse environmental effects are mitigated to the maximum extent feasible. Application of the Section 30260 override provision is discretionary: if a project meets these three criteria, the Commission *may* approve the project, but is not required to do so. Conversely, if a project fails to meet one or more of the criteria, the Commission may not approve it.

Staff recommends that the Commission finds that there is no current alternative that can provide a reliable supply of water in the longer-term. Although the Pure Water Expansion is expected to meet demand in the near term, based on updated supply and demand estimates, the Pure Water Expansion project alone is likely inadequate to meet demand over the next twenty years. For that reason, denial of the Project would adversely affect the public welfare. Staff's recommended Findings recognize the need for long-term planning to address the region's critical water supply constraints and has conditioned this approval in ways that allow the Commission to evaluate any changed circumstances in the future (including any feasible alternatives that may emerge in the future) if the Project's construction timeline becomes too remote. Finally, through the imposition of a number of conditions, staff believes the Project's impacts have been mitigated to the maximum extent feasible.

Commission Action
The Commission approved, as described herein, the findings and the special conditions for Coastal Development Permit No. A-3-MRA-19-0034 and Coastal Development Permit No. 9-20-0603.

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Exhibit 9a – Map of Industrial Facilities in and near Marina
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Exhibit 10 – Cal-Am letters regarding community benefits
Exhibit 11 – CPUC Public Advocates Office Water Demand/Supply Recommendations

APPENDICES

Appendix A – Substantive File Documents
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I. ADOPTED MOTIONS & RESOLUTIONS

A. DETERMINATION FOR APPEAL A-3-MRA-19-0034

On November 17, 2022, by a vote of 7-3, the Coastal Commission approved Coastal Development Permit Application No. A-3-MRA-19-0034 as conditioned herein and adopted the following resolution:

Resolution

> The Commission hereby approves Coastal Development Permit Application No. A-3-MRA-19-0034 and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the Certified Local Coastal Plan and the public access and recreation policies of Chapter 3 of the Coastal Act. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that will substantially lessen any significant adverse impacts of the development on the environment.

B. DETERMINATION FOR CDP 9-20-0603

On November 17, 2022, by a vote of 8-2, the Coastal Commission approved Coastal Development Permit Application No. 9-20-0603 as conditioned herein and adopted the following resolution:

Resolution

> The Commission hereby approves a coastal development permit for the proposed development and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act and will not prejudice the ability of the local government having jurisdiction over the area to prepare a Local Coastal Program conforming to the provisions of Chapter 3. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

II. STANDARD CONDITIONS

This permit is granted subject to the following standard conditions:

1. **Notice of Receipt and Acknowledgment.** The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

2. **Expiration.** If development has not commenced, the permit will expire five years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for an extension of the permit must be made prior to the expiration date.

3. **Interpretation.** Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.

4. **Assignment.** The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.

5. **Terms and Conditions Run with the Land.** These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

III. SPECIAL CONDITIONS

This permit is granted subject to the following special conditions:

1. **Other Permits and Approvals.** PRIOR TO ISSUANCE OF THIS PERMIT, the Applicant shall submit documentation from the following entities of final approvals, permits, and determinations required for the proposed Project or documentation from those entities that no further permits or approvals are required:

   Local –
   - **Monterey One Water ("M1W"):** Coastal Commission permit authorization for construction of modifications to the existing M1W ocean outfall to accommodate discharges from desalination operations.
   - **Monterey County:** encroachment permit(s) for construction of Project pipelines within the coastal zone and within County jurisdiction.
   - **Cities of Marina, Seaside, and Sand City:** encroachment permit(s) for construction and operation of Project pipelines within the coastal zone and within the jurisdiction of these entities.
   - **Transportation Agency of Monterey County ("TAMC"):** approvals necessary for construction and operation of Project pipelines within TAMC rights-of-way.

   State –
   - **State Lands Commission:** lease(s) of state tidelands for continued use of the Project's existing test well and of new proposed wells beneath state tidelands.
   - **Central Coast Regional Water Quality Control Board:** a National Pollution Discharge Elimination System ("NPDES") Permit allowing the discharge of effluent through the M1W outfall and approval to modify that outfall to allow the discharge.

- **California Public Utilities Commission ("CPUC"):** completion of the CPUC's pending proceeding (A.21-11-024) of water supply and demand estimates for the Monterey Peninsula Water Supply Project (MPWSP) with a determination that there is projected demand for additional water supply beyond the Pure Water Project Expansion (i.e., the project that would increase the capacity of the previously CPUC-approved Pure Water project from 3,500 AFY to 5,750 AFY) by or before 2050 and a showing that Cal-Am has authorization from the CPUC to proceed with the Project.

Federal –

- **Monterey Bay National Marine Sanctuary:** authorization from the Sanctuary to allow discharges into Sanctuary waters and drilling and disturbance of submerged lands within the Sanctuary. This is to include any necessary Biological Opinions from the U.S. Fish and Wildlife Service and the National Marine Fisheries Service or confirmation from the Sanctuary that those Opinions are not required.

Other –

- **Other landowners:** authorization from any other landowners within the coastal zone on whose property the Applicant would conduct Project-related construction activities.
- **Legal:** (1) a final judgment or other final disposition of the entirety of the pending action entitled *City of Marina v. RMC Lonestar, et al.*, Monterey County Superior Court No. 20CV001387 (in which the trial court has referred various issues to the Administrative Hearings Office of the State Water Resources Control Board ("SWRCB") for determination), Cal-Am shall provide proof of such judgment or disposition to the Executive Director. This permit shall not be issued if that judgment or disposition demonstrates that (a) the Applicant does not have, and cannot feasibly obtain, water rights (to the extent applicable) for the Project or (b) Cal-Am's Project would cause harm to any aquifer that is a source of drinking water to the City of Marina or the Marina Coast Water District.

  (2) Alternatively, prior to such a final judgment or other final disposition, Cal-Am may submit the SWRCB's adopted order in the above-referenced SWRCB proceeding to the Commission in an application for an amended coastal development permit to remove the requirement in the preceding paragraph. The Executive Director shall reject such amendment application unless the SWRCB's adopted order demonstrates, based on reasonable evidentiary findings, that (a) Cal-Am has, or can feasibly obtain, water rights (to the extent applicable) for the Project and (b) Cal-Am's Project would not cause harm to any aquifer that is a source of drinking water to the City of Marina or the Marina Coast Water District.

If any of these approvals or determinations result in changes to the proposed Project that are not evaluated in this CDP, the Applicant submit a complete application to amend this permit unless the Executive Director determines that an amendment is not necessary.

2. **Project Phasing.** This permit authorizes construction and operation of Phase I of the Project. To obtain authorization for construction and operation of Phase II, the Applicant shall submit an application for an amendment to this permit that includes all of the following:
   a) Authorization from the CPUC for the 6.4 mgd facility and any other required approvals.
   b) A detailed description of the proposed development associated with Phase II.
   c) An assessment of coastal resource effects from Phase II, including whether there are any changed circumstances from what was analyzed as part of this CDP review.
   d) Confirmation that the Applicant has submitted all required monitoring reports for the Phase I Project.

   The Applicant shall not begin operation of Phase II until the following criteria have been met:
   - Phase I has been in full operation for a minimum of two years; and
   - All required monitoring reports have been submitted, including the Groundwater Monitoring Report, Wetland Monitoring Report, etc., for a minimum two-year period, to demonstrate that the Project's Phase I has not caused any significant adverse effect on local groundwater supplies for the City of Marina and Marina Coast Water District, wetlands or other coastal resources.

3. **Construction Best Management Practices.** PRIOR TO STARTING CONSTRUCTION ACTIVITIES, the Applicant shall provide, for Executive Director review and approval, Construction Plans that address construction methods and Best Management Practices ("BMPs") of all project components and that include the following:
   a) Construction areas: site plans showing the location of all construction areas, staging areas, fueling areas, and construction access corridors. The areas within which construction activities and/or staging are to take place are to be minimized to the extent feasible to reduce potential impacts to coastal resources.
   b) Construction BMPs: the Plans shall identify the type and location of all erosion control and water quality BMPs that will be implemented during construction to protect coastal water quality. Silt fences, straw wattles, filtration equipment, and other similar materials are to be installed and maintained around the perimeter of all construction areas to prevent construction-related runoff and sediment from discharging directly into storm drains or coastal waters. The Plans shall identify all measures that will be used to keep the construction areas physically separate from public recreational use areas, such as using signage, temporary fencing, or other measures to delineate construction areas. The Plans are to also describe all measures that will be implemented to reduce the effects of construction noise and lighting of areas outside the delineated construction areas.
   c) Equipment BMPs. Equipment fueling, washing, and maintenance shall take place at a designated hard-surfaced area where any leaks or spills can be contained

and collected. All equipment shall be inspected at least daily to identify any leaks or potential leaks promptly. Any fueling and maintenance of mobile equipment conducted on site shall take place at designated areas located at least 100 feet from coastal waters, drainage courses, and storm drain inlets, if feasible (unless those inlets are blocked to protect against fuel spills). Fueling and maintenance areas shall be designed to fully contain any spills of fuel, oil, or other contaminants. Equipment that cannot be feasibly relocated to a designated fueling and maintenance area may be fueled and maintained in other areas of the site, provided that procedures are implemented to fully contain any potential spills.

d) Good Housekeeping BMPs. The Plans shall describe good construction housekeeping controls and procedures that will be implemented, including cleaning up all leaks, drips, and other spills immediately, keeping materials covered and out of the rain, covering exposed piles of soil and wastes, disposing of all wastes properly, placing trash receptacles on site and covering open trash receptacles during wet weather, and removing all construction debris from the site at least daily.
e) Construction timing: The Plans are to provide a construction schedule identifying the expected duration of construction and the hours and days construction is expected to occur.
f) Construction Coordinators. The Plans shall identify one or more designated construction coordinators at each construction site as the point of contact during construction should questions arise regarding the construction (in case of both regular inquiries and emergencies). The Plan shall provide coordinators contact information, including, at minimum, an email address and a telephone number that will be made available 24 hours a day for the duration of construction and that shall be conspicuously posted at the job site where such contact information is readily visible from areas accessible to the public. The Plan shall require that the coordinators record all complaints received regarding construction activities, including the nature of the complaints, contact information where available (e.g., name, phone number, and email address) and shall require the coordinator to investigate complaints and take remedial action, if necessary, within 24 hours of receipt of the complaint or inquiry. All complaints and all actions taken in response shall be summarized and provided to the Executive Director upon request.

Copies of the approved Plans and of the signed CDP shall be maintained at the appropriate construction site(s) and be available to project personnel and the interested public upon request. All project personnel shall be briefed on the content and meaning of the CDP and the approved Plans prior to their start on project activities.

The Applicant shall implement development in accordance with this condition and the approved Construction Plans. Minor adjustments to the above requirements, as well as to the Executive Director approved Plan, which do not require a CDP amendment or a new CDP (as determined by the Executive Director), may be

allowed by the Executive Director if such adjustments: (1) are deemed reasonable and necessary; and (2) do not adversely impact coastal resources.

4. **Spill Prevention and Response Plan.** PRIOR TO THE START OF CONSTRUCTION ACTIVITIES, the Applicant shall submit, for Executive Director review and approval, Project-specific Spill Prevention and Response Plans that address potential spills or releases of hazardous materials during both project construction and project operations. The Plans shall identify worst-case spill scenarios and demonstrate that adequate spill response equipment will be available. The Plans also shall include preventative measures that will be implemented to avoid spills and measures that will be implemented should spills occur. The Plans shall specify responsibilities of contractors and project personnel. The Plans shall identify the location of all on- and off-site spill response equipment (including sorbent materials, booms, etc.) that will be available in the event of a spill, and the protocols and expected response times for deployment. The Plans are to clearly identify responsibilities of project personnel and contractors in the event of a spill and shall include necessary contact information for responsible personnel and involved emergency response agencies (e.g., Fire Department, U.S. Coast Guard, etc.).

5. **Closures for Species Protection.** Any construction activities at the Project well field or near the beach for outfall modifications shall occur outside of Western snowy plover breeding and nesting season (March 1 through September 30 of any year), unless authorized by the U.S. Fish and Wildlife Service ("USFWS"). Any construction activities within 30 feet of habitat known to be used by Smith's blue butterfly shall occur outside of the annual butterfly flight season (June 1 to September 15 of any year) unless authorized by the USFWS. All Project maintenance and repair activities shall occur outside these closure periods to the extent feasible.

   If the USFWS authorizations require any changes to the project as approved herein, the Applicant shall submit a complete application to amend this permit and receive approval from the Commission for those changes, unless the Executive Director determines no amendment is necessary.

6. **Permit Term.** This coastal development permit authorizes the approved project slant wells and associated components to be installed and remain on the Applicant's property within the CEMEX site for a period of 25 years, or until January 1, 2050, whichever occurs first. After such time, the authorization for the continuation and/or retention of these project elements shall cease, unless an extension of the permit term is approved, as set forth below.

   No later than two years prior to the end of this permit term, the Permittee shall apply for a new coastal development permit or amendment to this permit to remove, relocate, or rehabilitate these project elements and to restore all areas of the site that will no longer be used for these project elements, or to modify this term of

authorization. This application shall include, at a minimum, the most recent sea level rise projections for the project location, the most recent coastal erosion rates for the location, and the then-current location of site features, including the mean high tide line, foredunes, existing habitat types, and presence of any known or potential sensitive species using the site's habitat types. The application shall also identify and address changed circumstances and/or unanticipated impacts that have occurred or are reasonably expected to occur during the next 25-year period regarding environmental impacts and coastal hazards, including but not limited to ongoing sea level rise projections and changed projections of known and potential coastal hazards. It shall also describe any changes to coastal resources including those resulting from public access or modifications to site habitat types. Provided the Permittee submits a complete application by this date, the termination date for this permit shall be automatically extended until the time the Commission acts on the new or amended coastal development permit application.

Failure to obtain a new or amended coastal development permit authorizing removal of and/or an additional term to retain the project elements shall cause this development to be in violation of the terms and conditions of this coastal development permit.

7. **Pre-Construction Biological Surveys and Monitoring During Construction.** The Permittee shall enlist one or more qualified biologists acceptable to the Executive Director, to conduct sensitive species pre-construction surveys and to monitor the project site during all construction activities per the following:

   a) **Pre-Construction Biological Surveys.** PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES IN SPECIFIED WORK AREAS, Protocol-level surveys shall be conducted for any species that have been previously documented in the work area, its buffers, or within 0.5-mile, and could be reasonably expected on the basis of other known factors (e.g., habitat suitability). Surveys shall be conducted to at least 100 feet beyond the specified work areas. In the event that the biologist(s) reports finding any sensitive wildlife (within three days or less of intended construction for a specified work area) or plant species (within the preceding bloom season) during the pre-construction surveys, the Permittee shall delay work, implement any pre-approved mitigation measures, and promptly notify the Executive Director as well as CDFW and/or USFWS, as applicable. Project activities may commence upon written approval from the Executive Director, following any necessary consultation with CDFW and/or USFWS. Surveys and mitigating measures shall additionally:
      i. For western snowy plover, nesting surveys shall be informed by the cumulative and trending record of habitat use from recent years and extend out to 500 feet from the work area.
      ii. For legless lizards, use a triple-pass method where hand rakes are passed through the upper three inches of soil below the current vegetation layer in areas of appropriate habitat, and each sequential pass should demonstrably locate progressively fewer animals. The first pass shall

occur in the early morning, when the species is most readily captured, and an overnight period of no soil disturbance shall be allowed before the second pass. If no animals are found during the second pass, they may be assumed absent and no third pass shall be required. If animals are found during the first or second passes, a third pass shall be required.

iii. For all nesting birds, other than western snowy plover and burrowing owls, surveys shall be completed no more than 72 hours prior to the commencement of construction activities and provide for a minimum of 300-ft buffers for non-raptor species and 500-ft buffers for raptor species, unless determined less may be acceptable during consultation with CDFW and/or USFWS, as appropriate. At a minimum, buffers shall not be reduced below 50 feet or 250 feet for non-raptors and raptors, respectively, and noise shall not exceed 65 dBA at any sensitive receptor site. Noise barriers and visual screens may be considered, in consultation with the Executive Director.

iv. For American badgers, surveys shall include areas along the pipeline alignments in vegetation communities where burrows have been previously recorded, including the various scrubs.

v. For Monterey dusky-footed woodrats, surveys shall extend out to 100 feet from the specified work area.

vi. Include the Executive Director in all relevant natural resource consultations and provide all survey results and supporting documentation, including submissions to other agencies.

b) **Biological Monitoring During Construction.** PRIOR TO COMMENCEMENT OF CONSTRUCTION EACH DAY, the biologist(s) shall inspect the active project areas to ensure that the day's activities will not result in impacts to sensitive species or encroach on established buffers. The biologist(s) shall document the results of each daily pre-construction survey; the Permittee shall retain and make these available upon request. Construction activities may not commence until any sensitive wildlife species have the left the project area and its vicinity and/or any sensitive plant species have been sufficiently protected or salvaged in accordance with the approved final Habitat Mitigation and Monitoring Plan, pursuant to **Special Condition 10**. In the event that the biologist(s) determines that any sensitive species exhibit reproductive or nesting behavior, the Permittee shall cease work and promptly notify the Executive Director as well as CDFW and/or USFWS, as applicable; construction activities may only resume upon written approval of the Executive Director. If impacts or injury occur to sensitive species, the Permittee shall notify the Executive Director as well as CDFW and/or USFWS and will be advised of the appropriate action or mitigation to be taken.

The biologist(s) shall possess the authority to halt work to prevent any breach in permit compliance from occurring, or if any unforeseen sensitive habitat issues arise and until they are satisfied that the issue has been resolved. The biologist(s) shall immediately notify the Executive Director if development

activities outside of this permit occur and document any incidents requiring the stoppage of work.

8. **Construction Impact Validation and Compensatory Mitigation Ratios for Habitat.** NO LESS THAN 90 DAYS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION IN ANY SPECIFIED WORK AREA, the Permittee shall submit baseline surveys documenting, at a minimum: the physical extent and acreage of all habitats within proposed impact areas; each vegetation community's native species diversity, native species cover, invasive species cover, and the relative cover of dominant native vegetation species; and the vegetation community's age classes and/or size structure distributions. Surveys shall be conducted during the late spring/early summer season when most plant species are blooming and readily identifiable, unless otherwise proposed with clear justification, for review and approval by the Executive Director. Existing records and documentation shall be considered in conjunction with the new data to establish as comprehensive a baseline as possible. Any sensitive species detections not previously documented in submitted materials shall be clearly reported, including with annotations identifying occurrences as new, and shall be additionally submitted to CDFW and/or USFWS, as appropriate, and to the California Natural Diversity Database (CNDDB). Photos shall be taken from designated points across the survey area, at spacings and perspectives sufficient to represent existing conditions and support impact evaluations. In addition, post-construction surveys, final impact assessments, and compensatory mitigation requirements shall follow as:

   a) **Post-Construction Surveys.** For each habitat, post-construction surveys shall document, at a minimum, the physical extent and acreage of all impacted habitats, and the activities that occurred within the area, including any vegetation clearance, mortality, or other significant reduction in vegetation cover due to project activities (e.g., pruning), or ground disturbance. Post-construction surveys shall be completed within 90 days of completion of construction activities in a specified work area and for impacts anticipated to be potentially characterized as temporary, additionally document, at a minimum: the dates of initial and final project-related disturbance to the habitat; each vegetation community's native species diversity, native species cover, invasive species cover, and the relative cover of dominant native vegetation species; the vegetation community's age classes and/or size structure distributions; and, photos from the designated points used for pre-construction surveys, to support impact evaluations.

      Impact Validation Report. A final report comparing the extent and nature of impacts as estimated by the Permittee in the submitted materials with those actually observed following construction shall be submitted within 30 days of post-construction survey completion, for Executive Director review and approval. The observed impacts, once approved, shall form the basis of the compensatory mitigation obligation. If the observed impacts are significantly greater than what has been assessed as part of the Commission's authorization, a permit amendment will be required to address the discrepancy, unless determined

unnecessary by the Executive Director. Any such differences between estimated and observed impacts shall require revision or supplement to the HMMP pursuant to **Special Condition 10**.

b) **Temporary Impacts.** Short-term temporary impacts are those that are fully restored within 12 months of initial construction activity disturbance, and long-term temporary impacts are those that may occur for up to a 24-month period from the initial disturbance but require no more than 12 months following the conclusion of construction activity to fully recover. Any impacts that do not meet these timing parameters, significantly disturb the ground (e.g., trenching), or fail to recover vegetation communities to equal or better condition in terms of native diversity, native species cover, the relative cover of dominant native vegetation species, and vegetation community age classes and/or size structure distributions shall be considered permanent and mitigated for pursuant to sub-section C of this condition. Any impacts determined to qualify as temporary shall be mitigated for at a minimum of 1:1 (short-term) or 1.5:1 (long-term) ratio, and comply with the following terms:

   i. **On-Site Mitigation.** No less than 1:1 of the mitigation shall occur in-kind and on-site, where temporary impacts are observed.
   ii. **Off-Site Mitigation.** For long-term temporary impacts, the balance (0.5:1) shall occur as in-kind mitigation unless no feasible option is available and a clear nexus is identified, subject to Executive Director review and approval. The balance of mitigation acreage shall occur within the geography specified for all compensatory mitigation in **Special Condition 10 [HMMP]** and where it can be protected in perpetuity.
   iii. **Invasive Species Treatments.** All California Invasive Plant Council (Cal-IPC) -listed species will be removed from temporarily impacted ESHA such that species ranked “high” shall not exceed a total of 1% cover and all ranked invasives shall not exceed a total of 5% cover. If this cannot be achieved by hand, for any herbicide proposed for potential use, the following information shall be provided prior to its use, for review and approval by the Executive Director: rationale for why herbicide(s) would constitute the least environmentally damaging alternative and detail on the specific product(s) that would be used, including certification by the California Department of Pesticide Regulation and allowance for the intended application.
   iv. **Revegetation Requirements.** Any revegetation intended to address temporary impacts shall include, at a minimum, replanting with locally and genetically appropriate native species. Documentation of all plant material sources shall be provided.
   v. **Restoration Report.** Within 30 days of completion of any active restoration work, the Permittee shall submit a post-restoration report documenting the areas where revegetation and invasive species treatments have occurred.
   vi. **Final Short-term Temporary Impact Survey.** Within twelve months of the initial disturbance, the Permittee shall conduct a survey that describes

whether areas (physical extents and acreages) identified as short-term temporarily-impacted have returned to their pre-impact condition (or better) by comparison with the baseline condition for each vegetation community, including native species diversity, native species cover, the relative cover of dominant native vegetation species, and the vegetation community's age classes and/or size structure distributions. Invasive species cover shall also be described. The survey shall be detailed in a report, to be submitted by the Permittee within 30 days of final survey completion, for Executive Director review and approval. If the survey demonstrates impacts persist or any revegetation effort has been unsuccessful, in part or in whole, any remaining impacts are, by definition, permanent, and shall be mitigated accordingly and shall require revision or supplement to the HMMP pursuant to **Special Condition 10**. Digital copies of the survey data and associated metadata shall be provided with the reports.

vii. **Final Long-term Temporary Impact Survey.** Within twelve months of the conclusion of disturbance, the Permittee shall conduct a survey that describes whether areas (physical extents and acreages) identified as long-term temporarily-impacted have been returned to their pre-impact condition (or better) by comparison with the baseline condition for each vegetation community, including native species diversity, native species cover, the relative cover of dominant native vegetation species, and the vegetation community's age classes and/or size structure distributions. Invasive species cover shall also be described. The survey shall be detailed in a report, to be submitted by the Permittee within 30 days of final survey completion, for Executive Director review and approval. If the survey demonstrates impacts persist or any revegetation effort has been unsuccessful, in part or in whole, any remaining impacts are, by definition, permanent, and shall be mitigated accordingly and shall require revision or supplement to the HMMP, pursuant to **Special Condition 10**. Digital copies of the survey data and associated metadata shall be provided with the reports.

c) **Permanent Impacts**. All impacts failing to qualify as temporary for any of the above cited reasons shall be recognized as permanent and mitigated for, consistent with the following:

i. A minimum ratio of 3:1 for ESHA impacts, where this base ratio assumes compensation as habitat creation or substantial restoration. Alternatively, enhancement or preservation strategies may be proposed at no less than double or triple the base ratio, respectively. No net loss of dune habitat(s) shall be assured by provision of a minimum 1:1 as habitat creation for the total acreage where permanent development will be located (e.g., the slant well pads and access road infrastructure); any remaining balance may be addressed through the various mitigation strategies, with adjustments to the discounted ratio, as described above (e.g., 2:1 may be

satisfied via creation or substantial restoration, or as 4:1 via enhancement, or as 6:1 via preservation).

ii. All habitat mitigation for permanent impacts, and the 0.5:1 fraction for long-term temporary impacts not addressed in place, shall occur within areas that are or will be protected, as consistent with **Special Condition 9**.

iii. Mitigation requirements for particular species impacts, as may be required by other agencies, may be folded into those for ESHA but may not conflict with or otherwise replace the requirements of this permit, and alternatively, may necessitate additional acreage or other requirements.

9. **Dune Habitat and Open Space Protection.** PRIOR TO THE START OF CONSTRUCTION, the Permittee shall submit to the Executive Director for review and approval evidence of existing deed restriction(s) or documentation irrevocably dedicating habitat and open space conservation easement(s) in perpetuity, consistent with the following terms:

   a) **Objective.** Existing restriction(s) and/or conservation easement(s) shall provide for the protection, creation and/or improvement of dune habitat in the subject area(s). At a minimum, the 1:1 dune habitat creation requirement in **Special Condition 8** **[Construction Impact Validation and Compensatory Mitigation Ratios for Habitat]** shall be satisfied by the establishment of new protections over previously unprotected lands and activities necessary to restore natural dune processes at the site(s). Outside the TAMC corridor, any additional areas supporting compensatory mitigation shall be afforded the comparable protections, whether existing or established by necessity of this permit.

   b) **Allowable Uses and Development.** No development, as defined in Section 30106 of the Coastal Act, shall occur within the easement area(s) except for those consistent with ESHA (e.g., restoration activities, nature study, and low impact recreation).

   c) **Recordation.** Conservation easement(s) shall be recorded free of prior liens and any other encumbrances that the Executive Director determines may affect the interest being conveyed and shall include formal legal descriptions of the entirety of the parcel, a metes and bounds legal description and graphic depiction, prepared by a licensed surveyor based on an on-site inspection, drawn to scale and approved by the Executive Director, of the dedicated easement area(s). Such easement(s) shall run with the land, binding successors and assigns of the Permittee and the landowner and indicate that the restrictions on the use of the land shall be in effect upon recording and remain as covenants, conditions, and restrictions running with the land in perpetuity.

   d) **Dedication.** The Permittee may dedicate dune habitat and open space conservation easement(s) to another public entity, including State Parks or another land management entity, upon approval of the Executive Director.

e) **Deadline.** The Executive Director may extend the deadline if they determine that the Permittee has been diligently pursuing the conservation easement, and that the Permittee has demonstrated good cause for any identified delays.

10. **Habitat Mitigation and Monitoring Plan.** PRIOR TO PERMIT ISSUANCE, the Permittee shall submit two copies of a final Habitat Mitigation and Monitoring Plan (HMMP) prepared by a qualified restoration ecologist to the Executive Director for review and written approval. Impact acreages, which shall be the basis of compensatory mitigation requirements, are estimated in the materials submitted on October 24, 2022 and shall be finalized per **Special Condition 8**.

a) **Compensatory Mitigation Options.** Compensatory mitigation requirements for habitat impacts may be satisfied by any of the following three alternatives, or combination thereof, with the exception of the dune creation requirement to achieve no net loss of dune acreage, which must be fulfilled on lands not yet protected and contribute significantly to the restoration of coastal dune processes:

i. **Protection and Improvement of Unprotected Lands.** Priority shall be given to acquiring lands that presently support or would appropriately support dune and dune-associated habitat(s), including foredunes, dune scrub, and mixed chapparal, following habitat improvement activities may be acquired or otherwise moved into protection from future development threats (e.g., conservation easement), for the purposes of habitat conservation. Such lands may be of singular or multiple nature, include sites of variable habitat condition, and involve acquisition, restoration or enhancement activities as part or all of the compensation due for habitat impacts and losses associated with the permitted project. Newly protected but unimproved lands will qualify as preservation whereas protected and improved lands may qualify for credit as creation, if approved by the Executive Director.

ii. **Improvement of Protected Lands.** Lands that presently support or would support dune and dune-associated habitat(s), including foredunes, dune scrub, and mixed chapparal, following habitat improvement activities, and which occur on lands already protected for the purposes of habitat conservation, may be restored or enhanced with agreement and coordination with the landowner and Executive Director. In such case, the landowner may specify the acreage available and terms of agreement between the Permittee and landowner. Land already obligated to other regulatory requirements, including but not limited to prior Commission decisions, legal obligation, and Habitat Conservation Plans, shall not be considered available as compensation for this project unless the work would demonstrably exceed those obligations and provide mitigation determined by the Executive Director to be not otherwise available. The landowner shall be included in all discussions concerning site restoration priorities, goals and objectives, methods, maintenance, etc. The Executive

Director shall review and approve any tentative agreement between the Permittee and landowner prior to execution, to ensure that all terms are consistent with the requirements of this and other Special Conditions.

iii. **In-Lieu Fees.** A fee of $250,000 per acre of required restoration shall be assessed and paid into an interest-bearing account to be established and managed by a government or non-governmental organization as approved by the Executive Director, for the sole purpose of financing dune and dune-associated habitat protection, restoration, and related activities in the region not otherwise already provided for. If a suitable account to accept and administer in-lieu fee funds for dune and dune-associated habitat in the region does not already exist, the Permittee shall be responsible for facilitating the development and initiation of such an account, including through the provision of funds to establish the account. Any additional costs associated with administering the prescribed fees for habitat benefit shall be the responsibility of the Permittee. For each year between the time of Commission approval and the payment of any in-lieu fees, the cost per acre shall be adjusted by any increase in the consumer price index applicable to the Monterey region. All of the habitat-directed funds and any accrued interest shall be used as consistent with the above stated purposes, in consultation with the Executive Director.

NO LESS THAN 90 DAYS PRIOR TO PERMIT ISSUANCE, if insufficient acreage has been secured by the Permittee for either protection or improvement, the balance shall be assessed as a non-refundable in-lieu fee per the terms above. Evidence of all fees having been received into an approved account shall be provided PRIOR TO PERMIT ISSUANCE.

Any and all lands that would be protected and/or improved shall occur within the coastal zone, in dune and dune-associated habitats situated between the southern boundary of the Salinas River and northern boundary of the City of Monterey, and west of Highway 1. Any in-lieu fees that would be paid as compensation shall be applied to the protection and improvement of dune and dune-associated habitats in this same geography. Any and all lands that would support compensatory mitigation requirements, including those that would be protected or improved using in-lieu fees, shall be subject to the requirements of **Special Condition 9** with the sole exception being for temporary impacts that would be restored on-site and in-kind within the TAMC corridor.

b) **Plan Components.** The final HMMP shall include, at a minimum, each of the following components and may necessarily be structured to address multiple mitigation sites:

i. **Introduction.** Description of the HMMP purpose including an overview of the proposed project associated with the HMMP; a summary of impacts for which the HMMP is intended to mitigate; identification of the general mitigation strategies to be used; the proposed on-site and off-site

mitigation locations; and the mitigation areas intended to compensate for each affected resource.

ii. **Mitigation Goals and Objectives.** Statement of mitigation goals, including the desired habitat type(s), major vegetation components, and sensitive species and wildlife support functions; description of the desired habitat with rationale, to be based on a high functioning reference site where feasible and alternatively, derived from literature describing either the site's historic conditions or "typical" regional habitat conditions; specific, actionable objectives to support stated goals; and a detailed timeline laying out all major activities including any outstanding preliminary work such as surveys, site preparation, mitigation implementation including revegetation activities, interim and final monitoring periods, etc.

iii. **Description of Existing Habitat(s).** Separate sections describing each of the impacted native habitat types including coastal dune, coastal scrub, and mixed chaparral habitat; final figures, maps, and related information depicting existing ecological resources; and specification of impacts for which the HMMP is intended to mitigate.

iv. **Design Plans and Construction Methods.** Specification of final mitigation site design and construction methods consistent with identified goals and objectives, including but not limited to:

1. **Mitigation Design**. Detailed plans showing final topography, vegetation, and any other significant features characteristic of the intended habitat; and how these connect to the surrounding environment.
2. **Site Preparation.** Methods and plans for salvage of any plant and/or seed material (including collection from impact areas, storage, relocation, and/or reestablishment); salvage of any topsoils to be stock-piled and reused in the mitigation area; any demolition, debris removal, grading, decompaction, soil amendment, or other substrate-affecting activities; erosion control measures; and treatment of invasive species.
3. **Best Management Practices.** Detailed list of all BMPs that will be implemented as part of project implementation, including triggers for further or remedial action.
4. **Revegetation Plans.** Details on plant palettes; stocks and seed mixes; material sourcing including verification of local and genetically appropriate nature; any proposed irrigation including rationale, method, and schedule; and provisions for removal of any temporary infrastructure following plant establishment.

v. **As-Built Report.** Provision that eight (8) weeks following completion of mitigation site construction and revegetation activities, an as-built report summarizing mitigation activities to-date, a description of consistency with approved plans, documentation of acreage treated, maps and descriptions any temporary infrastructure installed, photos taken from fixed points, and a description of consistency with all terms and conditions, to be submitted to the Executive Director for review and approval.

vi. **Invasive Species Control.** Provision for continued control of all California Invasive Plant Council-listed species and description of monitoring and control methods. If any herbicide is proposed for potential use, rationale for why it would constitute the least environmentally damaging alternative and detail on the specific product(s) that would be used, including its certification by the California Department of Pesticide Regulation and allowance for the intended application.

vii. **Monitoring Plan.** Detailed plan for quantitatively monitoring the condition and progress of the mitigation site during both the initial mitigation phase as well as over the long-term at reduced frequency and intensity; performance relative to set criteria, as informed by robust sampling and statistics; triggers for adaptive management action; and reporting. Specifically:

1. **Monitoring Frequency.** During the initial phase of no less than five (5) years or three (3) years following cessation of all remedial measures except weeding, whichever is longer, quantitative monitoring at least once per year during the period of rapid plant growth and flowering, generally in spring or early summer, unless a clear rationale for otherwise is fully presented. Following the determination that success criteria have been met, long-term monitoring to inform maintenance and adaptive management shall occur at a frequency of no less than five (5) years.
2. **Success Criteria.** Final success criteria supported by interim criteria, the latter of which are intended to serve as benchmarks and guide adaptive management, whereas the former will enable measure of mitigation success. Criteria shall have a clear empirical basis (i.e., reference sites and/or published technical literature appropriate for the local area) and generally include representativeness of target vegetation communities (e.g., species composition, cover, structure, diversity, and presence of major structure-producing and habitat-defining species); physical parameters such as topography, bare substrate, and hydrology; and target wildlife support functions or usage. Criteria may be fixed values where there is a strong empirical basis, but, where feasible, should be relative to high-functioning reference sites in order to account for environmental variability. Reference sites should be located within the geography identified in subsection (a) of this condition and be similar to the mitigation site with regard to soil type, aspect, slope, and other relevant abiotic characteristics, and shall be identified, sampled, and quantitatively described as a component of the monitoring plan. Invasive species ranked by the Cal-IPC as “high” shall not exceed a total of 1% cover, and all ranked invasives shall not exceed a total of 5% cover.
3. **Performance Assessment.** Methods for judging mitigation success shall include supporting rationale for their selection and be specified in terms of the type(s) of comparison, including whether relative to fixed criteria or reference sites; identification of any reference sites that will

be used; test(s) of similarity; specification of the maximum allowable difference or effect size between the mitigation value and the reference value for each success criterion; and where statistical tests will be employed, statistical power analyses to document that the planned sample sizes will provide adequate power to detect maximum allowable differences. For such a test, alpha must equal beta; these values are typically 0.10 or 0.20, depending on the expected natural variability of the variables of interest.

4. **Sampling Design.** The field sampling program shall be designed in conjunction with the success criteria and selected methods of assessment. The sampling design and methods shall provide sufficient detail to enable an independent scientist to duplicate them, including a description of the randomized placement of sampling units, sampling unit size, planned number of samples, etc.

viii. **Reporting.** Monitoring of and reporting on the mitigation site shall occur annually for no less than five (5) years, and for at least three (3) years following the conclusion of all remediation and maintenance activities other than weeding, whichever is later. All reports shall be prepared by a qualified restoration ecologist and be submitted to the Executive Director for review and approval, no later than December 31st of each year. Raw data and associated metadata shall be delivered with all reports (in digital format).

1. **Annual Monitoring.** Beginning the year after the mitigation project has been installed, annual monitoring reports shall be due each year, including photos taken from fixed points; assessment relative to interim success criteria; a work plan for the subsequent year; and specific recommendations to adaptively manage the effort and facilitate mitigation success. Once a monitoring report is approved by the Executive Director, recommendations identified in the report shall become prescriptive unless otherwise advised in writing.
2. **Final Annual Monitoring Report.** A final monitoring report shall be submitted at the conclusion of all mitigation efforts, no sooner than five (5) years following mitigation implementation and summarize all prior reports; provide a detailed timeline of the overall progress and success; and include sufficient detail to evaluate comprehensive mitigation compliance with the specified goals, objectives, and success criteria set forth in the approved HMMP.
3. **Long-Term Monitoring Reports**. Associated with the long-term monitoring, reports shall be provided to summarize results, document any management actions that have been taken on the mitigation site, and any recommendations for management action going forward.

ix. **Long-Term Maintenance and Adaptive Management.** If a long-term monitoring report indicates that there has been substantial decline in the condition of the mitigation site, adaptive management shall be implemented to resolve this issue(s) to the extent feasible.

x. **Provision for Possible Further Action.**

1. **Impact Validation.** If final post-construction impact validation surveys or temporary impact performance assessments pursuant to **Special Condition 8** indicate that additional compensatory mitigation is necessary, in part or in whole, the Permittee shall submit within 90 days a revised or supplemental HMMP to compensate for those increases relative to the original estimates. The revised or supplemental HMMP(s) shall be prepared by a qualified restoration ecologist approved by the Executive Director and shall specify plans to compensate for the additional acreage consistent with all requirements of this Special Condition, to be reviewed and approved by the Executive Director. The revised HMMP may be processed administratively by the Executive Director, unless the Executive Director determines that an amendment to the original CDP is necessary.
2. **Non-performance.** If the final annual monitoring report indicates that the mitigation effort has been unsuccessful, in part or in whole, based on the approved success criteria, the Permittee shall submit within 90 days a revised or supplemental HMMP to compensate for those portions of the original program which did not meet the approved success criteria. The revised or supplemental HMMP(s) shall be prepared by a qualified restoration ecologist approved by the Executive Director and shall specify measures to remediate those portions of the original approved HMMP that have failed or have not been implemented in conformance with the original approved HMMP. These measures, and any subsequent measures necessary to carry out the approved revised or supplemental HMMP, shall be carried out in coordination with the direction of the Executive Director until the approved revised or supplemental HMMP is established to the Executive Director's satisfaction. The revised HMMP may be processed administratively by the Executive Director, unless the Executive Director determines that an amendment to the original CDP is necessary.

xi. **Partnering Agencies and/or Subcontractors.** The Permittee remains responsible for meeting all CDP terms and conditions, including funding of the full cost and implementing all measures to minimize and fully mitigate project impacts to coastal dune, coastal scrub, and mixed chaparral habitat. If the Permittee elects to enter into a binding agreement with a third-party agency or land management entity to carry out all or a portion of these HMMP requirements, the Permittee shall submit draft agreement provisions to the Executive Director for review and approval prior to finalizing any such agreements.

xii. **Consistency.** The Permittee or the approved third-party entity shall undertake development in accordance with the approved HMMP. The Executive Director may approve minor adjustments to these terms if the Executive Director determines that the adjustments (1) are de minimis in

nature and scope, (2) are reasonable and necessary, (3) do not adversely impact coastal resources, and (4) do not legally require an amendment.

11. **Groundwater Protection.** The Applicant shall install the Project's slant wells to extend at least 1,000 feet seaward of the proposed well head locations and shall screen the wells so they extract water as far seaward as is feasible and without penetrating the 400-Foot Aquifer. Any proposed changes to this approved installation must be reported to the Executive Director for a determination as to whether those changes would require an amendment to this permit.

12. **Monitoring and Remedial Measures to Protect Groundwater.** PRIOR TO ISSUANCE OF THIS PERMIT, the Applicant shall provide, for Commission review and approval, a Groundwater Monitoring Plan intended to ensure the Project's source water pumping does not adversely affect the aquifers that are a source of drinking water to the City of Marina and the Marina Coast Water District. The Plan shall be developed in consultation with the Marina Coast Water District and shall include the following:

    a) A detailed description, including maps and diagrams of area aquifers, including those the Applicant would rely upon for the Project's source water and those relied upon by the City and Water District for drinking water. The description shall identify all known existing monitoring or production wells screened within each aquifer. It shall also identify any known existing groundwater monitoring (water level and water quality) that is currently occurring and the availability of the data.

    b) A narrative characterization of all known sources affecting these aquifers (e.g., existing withdrawals for municipal or agricultural purposes, precipitation rates, seasonal variations, inputs or outputs from surface water features, etc.) and the extent of any known existing contamination sources (e.g., locations and rate of seawater intrusion, contaminant plumes, etc.). It shall also describe the known or expected degree that these sources affect the aquifers.

    c) A comprehensive groundwater monitoring program designed to assess how the Project's proposed source water pumping could affect the quality and availability of freshwater within the aquifers relied upon by the City and Water District as sources of drinking water. This program shall include the following components:

        i. Statement of monitoring goals to ensure that the monitoring will adequately identify the percentage of seawater extracted by the Project, will detect any change in the rate of seawater intrusion that the Project might induce, and will provide sufficient time to modify Project operations if monitoring identifies potential harm to the aquifers from those operations.

ii. A description of monitoring and other measures that will be implemented to establish baseline conditions. This shall include identification of proposed well locations and methods to be used to collect data, existing data to be used, measures to ensure the baseline conditions are sufficient to identify changes that occur from seasonal and water year type variations. Baseline data shall be collected for at least one year before Project pumping begins.

iii. A description of monitoring methods and frequency to be implemented during Project operations, including the locations and depths of existing or proposed monitoring wells, methods of data collection and review (including frequency of data review), data management and storage, and intended purpose of the data being collected, and shall describe the analyses to be conducted to determine whether adverse effects are likely to occur. All monitoring data collected by the Applicant pursuant to this permit shall be publicly available and posted on the Applicant's website in a clear and conspicuous manner. Monitoring frequency should be adequate to characterize relevant scales of variability and should be conducted continuously for at least the first two years. If continuous monitoring is not feasible, the Plan shall include a justification explaining why.

iv. Proposed thresholds or criteria for total dissolved solids and any other relevant water quality constituents as well as groundwater levels that will be used to indicate or predict potential harm to local groundwater supplies consistent with monitoring goals described in (a). The criteria or thresholds will be established through an appropriate statistical analysis prepared by the Applicant, and the analysis shall identify the methods to evaluate any statistically significant deviations from the baseline data. The Plan shall include a justification for each proposed threshold.

v. A description of model validation to be conducted. This shall include methods to incorporate the above-referenced baseline data and subsequent operational data into the Project's modeling to assess the ability of the model to accurately predict groundwater conditions and identify what, if any, changes can be made to improve its reliability. Model validation shall also incorporate available and relevant Aerial Electromagnetic survey data and modeling into the proposed model validation, as appropriate.

vi. A description of data analyses to be performed to assess impacts to local aquifers including a comparison of monitoring results to baseline conditions and the thresholds described above. If this involves updated groundwater modeling, provide a description of the proposed models, proposed statistical analyses to be conducted, and how monitoring data will be used. As part of the statistical evaluation, the monitoring data collected will be used to evaluate statistically significant deviations from monitoring criteria or thresholds compared to background levels.

vii. Proposed remedial measures and operational controls that could be implemented should any of the above thresholds be reached. Remedial

measures for thresholds indicating a lower level of concern may include further in-depth studies to investigate why a particular threshold has been reached. The proposed remedial measures shall include procedures for immediate notification to the Executive Director if Applicant discovers any exceedance of a threshold or criteria established pursuant to this Special Condition. Other remedial measures may include, but are not limited to, reduced or no pumping from one or more wells, repair and maintenance of existing intake or groundwater supply wells, relocation or redrilling of intake wells, groundwater recharge or similar projects implemented in partnership with affected water supply providers, providing water to affected users, or other measures to address groundwater quality or supply concerns. All remedial measures shall include timelines for implementation and reporting requirements to the Executive Director.

viii. Annual reporting: The Plan shall include a provision for annual reporting of groundwater monitoring results. The annual report shall be submitted to the Executive Director as well as posted on a publicly accessible website and shall include annual results as well as results from previous years. The report shall also discuss comparison of annual data and/or multi-year data (if appropriate) to the thresholds identified in subsection (d), a discussion of planned remedial measures and the success of any previously implemented remedial measures, and an overall assessment of achievement of the monitoring goals set out in subsection (a).

d) The Applicant shall provide the funding necessary to allow the Executive Director to hire one or more independent third-party reviewers to evaluate the proposed Plan and to recommend to the Commission any changes to the Plan necessary to ensure it is adequately protective of the aquifers used by the City and Water District. The Applicant shall apply for and obtain the Commission's approval of the Plan in the form of an amendment to this permit. If, after approval of the Plan, new information becomes available to the Applicant demonstrating that less stringent criteria (e.g., Total Dissolved Solids, salinity concentrations, etc.) does not adversely affect sources of drinking water in the relevant aquifers, the Applicant may seek a further amendment to this permit unless the Executive Director determines that an amendment is not needed.

13. **Wetlands and Vernal Pond Adaptive Management Program.** PRIOR TO PERMIT ISSUANCE, the Applicant shall submit a Wetlands and Vernal Pond Adaptive Management Program (Program), for review and approval by the Executive Director. The Applicant shall provide the funding necessary to allow the Executive Director to hire one or more independent third-party reviewers to evaluate the proposed Program and to recommend any changes to the Program necessary to ensure that it will protect against adverse impacts to area wetlands and vernal ponds. The Program shall provide for data collection and monitoring of the wetlands and vernal ponds within, at a minimum, the Project's drawdown zone plus a buffer area extending a distance of at least 50% beyond the edge of

the drawdown zone. The Program shall provide data collection annually for no less than two (2) years immediately prior to operations and the first five (5) years following commencement of operations, and shall include, at a minimum, each of the following components:

a) Introduction. Description of the Program purpose including an overview of the anticipated drawdown zone (e.g., extent, nature, levels of certainty); an overview of the general types of wetlands and vernal ponds present; the subsurface features that may influence hydrologic connections to wetlands and vernal ponds in the drawdown zone; and the general monitoring approach.

b) Description of Existing Wetlands and Vernal Ponds. For each wetland or vernal pond within the drawdown zone and buffer area, a detailed description of current conditions (e.g., extent, hydrology, associated biological resources, etc.) and a summary of any and all past findings available, including those from the City of Marina's *Coastal/Vernal Pond Comprehensive Management Plan* (prepared for the City of Marina by The Habitat Restoration Group, dated February 15, 1994) and the *Biological Resource and Groundwater Dependency Analysis of Marina Vernal Ponds* (prepared for the City of Marina by WRA, dated July 30, 2020). If there is evidence that wetland and/or vernal pond areas outside the above specified monitoring area could be affected by pumping, these wetland and/or vernal pond areas shall also be included in the Program.

c) Reference Sites. To the extent feasible, appropriate reference sites shall be identified, for vernal ponds and all other wetland types within the monitoring area.

d) Monitoring Plan. A detailed plan for qualitatively and quantitatively monitoring the condition of each wetland or vernal pond, including reference sites, to establish a baseline as well as document any potential adverse effects. Data collected pursuant to Special Condition 13 shall be used in conjunction with resource-specific metrics, including, at a minimum:
    i. Frequency. In order to evaluate variation in resource condition and the temporal patterns potentially affecting such, including seasonal and interannual patterns, hydrologic conditions shall be monitored continuously through the use of sensors, at a resolution sufficient detect any project-associated operational influences. Parameters that cannot be monitored continuously shall be alternatively evaluated at least four times per year (quarterly), as guided by anticipated drawdown patterns and seasonal dynamics.
    ii. Parameters. For each wetland or vernal pond, sampling shall include, at a minimum, the following parameters:
        a. Spatial extent, consistent with the definition of wetlands in the Coastal Act and Commission's regulations;
        b. Depth of surface water, depth of saturation, and depth to groundwater;

c. Hydroperiods (including duration and timing as might be sufficient to support sensitive wildlife, such as fairy shrimp or amphibious species, as well as migrating avian species dependent on wetland availability);
d. Characterization of potential hydrologic inputs other than groundwater, including estimates of volumes, timing, and frequency;
e. Water temperature, salinity, and dissolved oxygen;
f. Characterization of vegetation communities and their relative extents and conditions (e.g., stressed, healthy);
g. Root zone depth;
h. Rare or otherwise sensitive plant and wildlife species.

iii. Remote-Sensing. Along with on-the-ground monitoring efforts and *in situ* instrumentation, remote-sensing tools such as aerial imagery shall be used to help inform conditions from a landscape perspective.

iv. Wetland Delineations. Wetland delineations shall be completed no less than annually, during the period(s) that resources are determined to be most likely susceptible to drawdown impacts, as supported by a clearly articulated rationale, including evidence from hydrogeologic and geophysical modeling results.

v. Impact Assessment. Methods for evaluating adverse effects on wetlands and vernal ponds from drawdown operations shall be clearly specified and include supporting rationale for their selection. These shall be specified in terms of the type(s) of comparison(s), including any statistical analyses and the details thereof; specification of the maximum allowable difference or effect size between the subject site value and the reference value for each parameter; and, sources and magnitudes of uncertainty.

vi. Sampling Design. The field sampling program shall be designed in conjunction with the selected methods of assessment. The sampling design and methods shall provide sufficient detail to enable an independent scientist to duplicate them, including siting and programming of any *in situ* instrumentation, identification of survey areas and wetland sampling points, interpretive use of remote-sensing products, etc.

vii. Reporting. Annual monitoring results shall be submitted to the Executive Director for review and approval by December 31 of each year. Each report shall include a summary of previous monitoring years' findings and discussion of any trends or patterns observed. All data and associated metadata shall be delivered with all reports (in digital format).

viii. Final Monitoring. Subject to the Executive Director's review and approval, if at the end of the data collection period, the monitoring results clearly demonstrate that there is no connection between the Project's pumping and any of the wetlands and/or vernal ponds within the Project's drawdown zone, buffer area, and any additional areas that have been monitored as part of the Program, the Permittee's requirements under the Wetland and Vernal Pond Adaptive Management Program will be satisfied.

e) Adaptive Management. If at any time during the five (5) years of supplemental data collection following commencement of the Project's pumping, whether or

not Phase 2 of the Project has been implemented, data or results suggest that the Project may be having an adverse effect on any wetlands or vernal ponds, adaptive management actions shall be proposed. Prior to any adaptive management implementation, the Permittee shall provide a detailed explanation of the observed effect(s) and proposal of adaptive management action, supported by a clear rationale and anticipated benefit of the action, for review and written approval by the Executive Director. The submission may be part of an annual report or a standalone product, if timing otherwise necessitates. If monitoring results are inconclusive, the Permittee shall submit a revised Monitoring Plan extending the monitoring period for review and approval by the Executive Director.

f) Provision for Possible Further Action. If at any time during the five (5) years of supplemental data collection following commencement of the Project's pumping, whether or not Phase 2 of the Project has been implemented, data or results suggest that there is a connection between the Project's pumping and the wetlands and/or vernal ponds within the Project's drawdown and buffer zones that results in adverse effects on the wetlands and/or vernal ponds, or any additional areas that have been monitored, the Permittee shall cease or reduce the Project's pumping sufficiently to end these adverse effects and shall develop a Wetland Resiliency, Enhancement, Restoration, and Monitoring Plan (Plan) to address any, and all, prior and future impacts. The Permittee shall apply for and obtain the Commission's approval of the Plan in the form of an amendment to this permit and shall remain at the reduced or eliminated Project operations until receiving such approval.

g) Partnering Agencies and/or Subcontractors. The Permittee remains responsible for meeting all CDP terms and conditions, including funding of the full cost and implementing all measures to monitor wetlands and vernal ponds in the specified area(s), and adaptive management of Project operations or otherwise mitigating measures to address any adverse effects that may occur as a result of the Project. If the Permittee elects to enter into a binding agreement with a third-party agency or land management entity to carry out all or a portion of these wetland and vernal pond requirements, the Permittee shall submit draft agreement provisions to the Executive Director for review and approval prior to finalizing any such agreements.

h) Consistency. The Permittee or the approved third-party entity shall undertake development in accordance with the approved Program. The Executive Director may approve minor adjustments to these terms if the Executive Director determines that the adjustments (1) are de minimis in nature and scope, (2) are reasonable and necessary, (3) do not adversely impact coastal resources, and (4) do not legally require an amendment.

14. **No Future Shoreline Protective Device.**

a) By acceptance of this permit, the Applicant agrees, on behalf of itself and all other successors and assigns, that no shoreline protective device(s) shall be constructed to protect the wellheads and related development approved pursuant to Coastal Development Permit No. A-3-MRA-19-0034 in the event

that the development is threatened with damage or destruction from flooding, waves, erosion, storm conditions, sea level rise, or other natural hazards in the future. By acceptance of this permit, the Applicant acknowledges that the project is new construction for which there is no right to construct shoreline protective devices, and hereby waives, on behalf of itself and all successors and assigns, any rights to construct such devices that may exist under applicable law.

b) By acceptance of this permit, the Applicant further agrees, on behalf of itself and all successors and assigns, that the landowner(s) shall remove the development authorized by this permit if: (a) any government agency has ordered that the structures are not to be occupied due to coastal hazards, or if any public agency requires the structures to be removed; (b) essential services to the site can no longer feasibly be maintained (e.g., utilities, roads); (c) the development is no longer located on private property due to the migration of the public trust boundary; (d) removal is required pursuant to LCP policies for sea level rise adaptation planning; or (e) the development would require a shoreline protective device to prevent a-d above.

c) In the event that portions of the development fall to the beach before they are removed, the landowner(s) shall remove all recoverable debris associated with the development from the beach and/or ocean and lawfully dispose of the material in an approved disposal site. Such removal shall require a coastal development permit. Prior to removal, the Applicant shall submit two copies of a Removal Plan to the Executive Director for review and written approval. The Removal Plan shall clearly describe the manner in which such development is to be removed and the affected area restored so as to best protect coastal resources, including the beach and Pacific Ocean.

15.A. **Liability for Costs and Attorneys' Fees.** BY ACCEPTANCE OF THIS COASTAL DEVELOPMENT PERMIT, the Applicant agrees to reimburse the California Coastal Commission in full for all Coastal Commission costs and attorneys' fees including (1) those charged by the Office of the Attorney General, and (2) any court costs and attorneys' fees that the Coastal Commission may be required by a court to pay, which the Coastal Commission may incur in connection with the defense of any action brought by a party other than the Applicant against the Coastal Commission, its officers, employees, agents, successors and assigns challenging the approval, issuance, and implementation of this CDP. The Coastal Commission retains complete authority to conduct and direct the defense of any such action against the Coastal Commission.

15.B. **Assumption of Risk, Waiver of Liability, and Indemnity.** By acceptance of this permit, the Applicant acknowledges and agrees (i) that the site may be subject to hazards from tsunami, storm waves, surges, and erosion; (ii) to assume the risks to the Applicant and the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development; (iii) to

unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; and (iv) to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards.

16. Low-income ratepayer relief. The Applicant shall prepare and implement a low-income ratepayer relief program, inclusive of the following components, to offset the costs of the Project construction and operations on low-income customers in the service area:

a) PRIOR TO ISSUANCE OF THE PERMIT, the Applicant shall submit a low-income ratepayer relief program plan and implementation strategy that includes baseline information on the number of low-income ratepayers in the district, both in single-residential and multifamily units, that qualify as low-income according to the definition in AB 1550 and those who are eligible for the Applicant's Customer Assistance Program. The plan shall include current enrollment rates for the Applicant's existing income relief programs and the number that do not currently receive assistance. The plan will also include an outreach strategy including a timeline to enroll qualified ratepayers in its Customer Assistance Program. The plan shall explore options to offset the increased costs of desalinated water on low-income ratepayers identified through AB 1550 that are not currently eligible for rate assistance. This may include the Applicant working with the CPUC or independent of its approval to create new programs or expand income eligibility of existing programs, as detailed in subsection (b) and (c). The Plan shall also provide for annual reporting on the status and success of these programs, consistent with Special Condition 16.

b) PRIOR TO ANY INCREASE IN RATES RELATED TO THE DESALINATION FACILITY TAKING EFFECT, the Applicant shall implement the following:
   i. A $500,000 grant to the United Way Hardship fund and proposal to continue funding the United Way Hardship fund in perpetuity.
   ii. A $10 cap on rate increases per month for ratepayers enrolled in its Customer Assistance Program. The cap shall be in place for the duration of the Project. Annual reporting required here and under Special Condition 16 must demonstrate how the $10 cap is being met.

c) The Applicant shall submit an annual report to the Executive Director that describes and provides the status of all Project-related measures meant to reduce Project costs to low-income ratepayers. These shall include, but are not limited to:
   - All measures taken to enroll additional ratepayers into the Applicant's Customer Assistance and Low-Income Ratepayer Assistance programs, including the number and percentage of customers enrolled.

- All measures implemented to provide low- or no-cost purchase and installation of low-flow water fixtures (e.g., sink and bath faucets, showerheads, toilets, etc.), including the number of each type of fixture installed.
- The status of all requested or required CPUC proceedings meant to reduce costs to low-income ratepayers.
- All measures implemented to ensure that once deliveries of desalinated water from the Project start, ratepayers enrolled in these programs are subject to a rate increase of no more than $10.00 per month for any costs associated with the delivery of desalinated water from the Project after start of those water deliveries until Cal-Am implements any CPUC-approved rate relief programs that effectively cap rate increases to no more than $10 per month for such customers.
- A description of outreach activities to low-income ratepayers to inform them of the cost-saving measures.

17. **Community Engagement and Public Access Plans and Implementation**. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the Applicant shall submit, for review and approval by the Executive Director, a Community Engagement Plan that ensures residents and representatives of the City of Marina will be equitably engaged in development of a revised Public Access and Amenities Plan.

    The Community Engagement Plan shall be developed by a neutral third party selected and approved by the Executive Director in consultation with the City of Marina. The Plan shall describe how the Applicant will provide opportunities for Marina community members to identify public access priorities and projects for the benefit of Marina residents. It shall:

    a) Describe a community engagement strategy using community-centered and culturally relevant engagement and outreach methods (e.g., communication with multiple forms of media and in relevant languages, various methods to participate, such as in person meetings, online options, mail-in surveys, etc.) Materials developed to implement the Plan shall be provided in plain language to prevent cultural or educational barriers from preventing or reducing public participation.

    b) Includes a schedule and agendas for at least five community workshops within the City to allow community input on preferred public access opportunities and improvements. Workshops shall be noticed at least one month in advance and shall include benefits to ensure maximum participation, such as free parking, childcare options, refreshments, translation services, and others.

    c) Provide for neutral third-party facilitation of the workshops described in (b).

Upon Executive Director approval of the Plan, the Applicant shall implement it as approved to prepare a Public Access and Amenities Plan based on preferences expressed in the Community Engagement Plan. This Access Plan shall include two components: a Public Access and Amenities Plan for the City of Marina and a Plan describing how the Applicant's project site will be connected into the larger planning effort for the CEMEX site. The Plan shall include:

- A description of all access amenities to be provided.
- Identification of all reviews, permits, and approvals that may be needed to implement these amenities.
- A proposed schedule to complete implementation, which shall ensure amenities are provided within five years of issuance of this permit, unless otherwise approved by the Executive Director.
- Identification of any needed deed restriction or other legal instrument to implement public access or amenities within the Applicant's easement.
- The Applicant will provide three million dollars as funding to implement the elements of this Plan for improving public access, public facilities, recreational opportunities, and restoration within the City of Marina, and the Applicant's Plan will describe the process by which the funds are distributed for implementation of the Plan.
- The Plan shall describe the process for Cal-Am's funding of one full-time staff person at the City of Marina with appropriate professional credentials to provide technical oversight regarding the elements of the plan on behalf of the City of Marina, and Cal-Am shall fully fund that position for a period of ten years.

This Public Access and Amenities Plan shall be submitted to the Executive Director for review and approval and shall be implemented as approved.

18. **Cultural Resource Monitoring During Construction.** Prior to construction, the Applicant (or its designee) shall retain a Cultural Resource Specialist ("CRS") that meets the minimum qualifications of the U.S. Secretary of Interior Guidelines (NPS 1983). Prior to construction, the Applicant (or its designee) shall additionally retain a minimum of one Native Monitor, including at least one monitor from each Tribal entity with documented ancestral ties to the area and that expresses an interest in monitoring, appointed consistent with the standards of the Native American Heritage Commission and the Native American most likely descendant (MLD) when State Law mandates identification of an MLD.

    The Applicant shall ensure that all Project personnel are trained by the CRS and Native Monitor on the appropriate identification of potential Tribal cultural resources that may be encountered and on the necessary measures to be implemented should they be encountered. Prior to their presence at any Project construction area, all Project personnel shall complete cultural sensitivity training by Tribal experts to understand and acknowledge the cultural and ancestral Tribal resources in the region and to ensure that the Native Monitor and Cultural Resource Specialist are treated respectfully during construction of the project.

The CRS and Native Monitor(s) shall be present during all ground disturbing activities, including excavations for pipeline trenches, well head installations and other actions that penetrate below native ground surface. The CRS, Native Monitor(s), and the Project Construction Manager shall have the authority to halt construction if previously unknown cultural resource sites or materials are encountered. In the event of unexpected cultural resource discovery, the Native Monitor(s) and CRS shall have the authority to redirect ground disturbance under consultation with the Construction Manager.

19. **Energy Minimization and Greenhouse Gas Reduction.** PRIOR TO THE START OF CONSTRUCTION ACTIVITIES, the Applicant shall submit, for Executive Director review and approval, an Energy Minimization and Greenhouse Gas Reduction Plan that provides the following:

    a) Identifies the expected annual amount of indirect greenhouse gas ("GHG") emissions resulting from the Project's electricity use during its initial year of operations, with provisions to update these expected emissions during each subsequent year of operations. These amounts shall be based each year on the electricity supplier's most recent emission factor for delivered electricity as reported to the California Air Resources Board ("CARB") and/or Climate Action Registry ("CAR") that identifies the tonnes of GHG emissions per megawatt of electricity generated.

    b) For all remaining indirect GHG emissions resulting from Project operations, the Plan shall provide for the Applicant to submit an annual report for each year of Project operations that will identify all measures the Applicant will implement to ensure that the Project operates as "net carbon neutral" on an annual basis. These measures shall minimize energy use and shall, to the maximum extent feasible, provide for onsite production of renewable energy and procurement of off-site renewable energy from within California. For any remaining GHG emissions from Project operations for which renewable production or procurement is not feasible, the Applicant shall purchase carbon offsets or Renewable Energy Credits through CARB or CAR or approved by a California Air Pollution Control District, with reductions achieved using these measures documented by these entities as being "real, permanent, quantifiable, verifiable, and enforceable," pursuant to CARB regulations. Each annual report shall be submitted for Executive Director review and approval within 90 days of the electricity supplier's annual documentation to CARB or CAR of its most recent emission factor for delivered electricity. The Applicant may purchase more than one year's worth of offsets or credits, if deemed prudent, to use in subsequent years, but at no time shall the Project be operating with its annual amount of indirect GHG emissions greater than its purchased offsets or credits for a given year.

    c) The Plan may also identify any on-site and Project-related measures the Applicant implements to avoid or reduce the Project's indirect GHG emissions –

for example, installation of a roof-mounted solar photovoltaic system, use of a fuel cell system, etc. - and describe the amount of emissions avoided through these measures.

20. **Visual Resources.** PRIOR TO CONSTRUCTION, the Applicant shall submit, for Executive Director review and approval, a Visual Elements Plan that illustrates all above-grade elements of Project components within the coastal zone. The Plan shall include drawings and illustrations of those components with proposed surface colors and treatments that ensure the Project features are compatible with, and blend in to, the surrounding habitats and other nearby coastal resources. All Project lighting shall be directed downward and inward to the extent feasible and as necessary for health and safety purposes. The Applicant shall construct these Project components as approved by the Executive Director.

IV. FINDINGS & DECLARATIONS

A. Project Description, Location, and Objectives

California American Water Company ("Cal-Am") proposes to construct and operate desalination components of its overall Monterey Peninsula Water Supply Project ("MPWSP") that would consist of a desalination facility, a well field, water transmission pipelines, pump station, and other related infrastructure (the "Project"), and which would be consolidated with other water infrastructure serving the area, including a water recycling project (the "Pure Water" project and its expansion – the "Pure Water Expansion") and an Aquifer Storage and Recovery ("ASR") project. The proposed Project would provide up to 6,250 acre-feet per year, or about 6.4 million gallons per day ("mgd")[2] of potable water to its customers in the Monterey Peninsula area (see **Exhibit 1**). As described below, Cal-Am seeks authorization to construct a smaller initial phase of the Project that would produce about 5,372 acre-feet per year (which would be about 4.8 mgd). It proposes that construction of the full-scale Project during a second phase occur only if it can demonstrate a need for the additional water supply at a later date.

The desalination facility itself would be located outside the coastal zone at a site about two miles inland within the jurisdiction of Monterey County. As described below in Section IV.C – Jurisdiction and Consolidated Permit Review, these Findings include Commission consideration of several actions, including a consolidated CDP application for portions of the Project within the City of Seaside, the County of Monterey, and the Commission's retained jurisdiction within a portion of the County that does not have a certified Local Coastal Program ("LCP"), along with de novo review of an appeal of the City of Marina's decision to deny a CDP for portions of the Project within its certified LCP jurisdiction.

Project description

As described by Cal-Am and in the proposed Project's Final Environmental Impact Report/Environmental Impact Statement ("FEIR/FEIS") prepared by the California Public Utilities Commission ("CPUC") and Monterey Bay National Marine Sanctuary ("MBNMS"), the primary components of the proposed Project within the coastal zone include a well field that would be located at the site of the CEMEX sand mining facility on the shore of Monterey Bay within the City of Marina's LCP jurisdiction, several water transmission pipelines that would be located within the LCP jurisdictions of the Cities of Marina and Seaside and the County of Monterey, and an existing outfall that Cal-Am would modify, which is located within the City of Marina's LCP jurisdiction and the Commission's retained jurisdiction (see **Exhibit 2**). All of these main components would be located in whole or in part within environmentally sensitive habitat areas ("ESHA") or would result in effects on other coastal resources, as described in the Findings below.

[2] Water planning documents generally refer to water use as measured in acre-feet per year or in gallons per day. A million gallons per day equals about 1,100 acre-feet per year. In the Monterey area, which has one of the lowest rates of residential water use in the state, water use averages about 0.2 acre-feet per year, or under 200 gallons per day, for a single-family home.

The effects on ESHA are first described as they are presented in the Project's FEIR/FEIS, and then additionally detailed where significant changes have occurred due to changes in the Project as currently proposed.

Well field: For the full-scale 6.4 mgd Project, the well field would consist of about seven slant wells that would extract up to about 16 mgd of a mix of seawater from beneath the bay floor, intruded seawater from beneath the shoreline, and non-potable brackish water that includes a blend of seawater and freshwater from the underlying aquifer system. The proposed well field is within an approximately 30-acre easement Cal-Am purchased within the CEMEX sand mining facility, which is located in an extensive area of coastal dunes along the shoreline of Monterey Bay in the northern portion of the City of Marina (see **Exhibit 3**). Parts of the site were previously used for sand mining since 1906. Although the site has long been disturbed by mining activities, it continues to provide significant areas of sensitive habitat.

The full-scale Project would include five fenced well pads, with each well pad containing from one to three wells. Each well pad would include a concrete pad, an enclosure for electrical equipment, mechanical piping, and a rip-rap basin for disposing of pumped water during maintenance activities. Each would be within a graded area of between about 5,200 and 6,000 square feet. The well field would also include two surge tanks. The overall developed area for these components would total up to just under an acre within the CEMEX site. The well field would also include about 2,000 linear feet of graded access road providing access to each well pad from the existing CEMEX access road.

In October 2022, Cal-Am modified its Project to propose a "phased" approach that would initially provide about 4.8 mgd of water in the first phase and then, if certain conditions are met and approval is granted, could be expanded in the second phase to provide the previously proposed full amount of 6.4 mgd.[3] This proposed first phase would require construction of just two well pads, would allow for a shorter access road, and would reduce the initially required pumping volumes by about a third. As part of this "phased" proposal, Cal-Am also modified the design of these first two well pads to initially accommodate two slant wells and could accommodate a third well during the Project's second phase (i.e., without constructing an additional well pad) if hydrogeologic monitoring during the first phase indicated one or both well pads could accommodate the additional well. This would allow the reduced Project footprint and reduced impacts to continue into the second phase and would allow more flexibility in how the Project might be expanded in the second phase to address identified water demands at that time. If the third well could not be accommodated at either well pad, Cal-Am would construct up to the five well pads as described in the full Project proposal.

[3] See October 5, 2022 letter from Cal-Am. The proposed 4.8 and 6.4 mgd volumes are based on the modular nature of the desalination facility's "treatment trains," each of which is designed to produce about 1.6 mgd of potable water. Under this phased approach, Cal-Am would initially operate using three trains and then add a fourth under the second phase.

As part of this "phased" proposal, Cal-Am proposes to construct and operate a Project second phase if it can demonstrate a need for the full scale of the Project in the future. Further, although Cal-Am is currently seeking authorization for just this first phase of construction and operation, it requested that the Commission evaluate the full-scale proposed Project for consistency with the Coastal Act and relevant LCPs – i.e., that the evaluation address the full scope of ESHA impacts that could occur, the full suite of potential groundwater impacts, and other relevant issues. The Commission agrees that it is appropriate to evaluate those issues associated with the full scale of the Project in this review.

There is a great deal of uncertainty about if and when the Project's Phase II would be needed and what, if any, changed conditions may occur that would affect the analysis under the Coastal Act and the LCPs by the time of any Phase II of this Project. Part of this uncertainty may be addressed by the CPUC when it completes its proceeding to determine Cal-Am's reasonably expected water demand and supply projections during the current water planning period (i.e., until about 2050) (see CPUC Proceeding A-21-11-024, which is expected to be completed sometime in 2023). **Special Condition 1** requires Cal-Am to submit that final determination and to modify its Project accordingly to conform to that determination. However, the uncertainty about when Phase II might occur also limits the Commission's ability in this current review to adequately evaluate Project impacts that might occur at an unknown future date and to assess what feasible and less environmentally damaging alternatives might be available. Therefore, **Special Condition 2** acknowledges this remaining uncertainty by requiring Cal-Am to submit a complete application to amend this permit if it seeks to expand authorization of the Project to Phase II.

Desalination facility: Cal-Am would transport water from the well field through a proposed Source Water Pipeline to its desalination facility, which would be located outside the coastal zone and adjacent to a regional wastewater treatment facility operated by Monterey One Water ("M1W," formerly the Monterey Regional Water Pollution Control Agency). Cal-Am would treat the source water from the well field to create two main streams of potable water – the majority would be sent several miles south in new and existing pipelines to Cal-Am's customers in the Monterey Peninsula area, and up to several hundred acre-feet per year could be sent several miles north to the community of Castroville.[4] At the full scale of the Project, the facility would also create an approximately 10 mgd brine discharge that would be routed to an existing ocean outfall currently used by the wastewater treatment facility. With the recently proposed phased Project approach, Cal-Am would still construct the facility and pipeline

[4] Part of the potable water would also be sent north through a new pipeline to the City of Castroville pursuant to a Settlement Agreement that ensures any "non-seawater" – i.e., the proportion of water the slant wells remove from the aquifer that is not fully seawater – is returned to the groundwater basin. This project component is described in more detail below.

system to accommodate the potential full-scale facility but would operate them at about two-thirds capacity until the second phase might be needed.

Water delivery pipelines: As shown in **Exhibit 2**, the proposed Project includes four new pipelines within the coastal zone:

- The Source Water Pipeline would deliver water from the well field to the desalination facility. It would start at the CEMEX site within the City of Marina's LCP jurisdiction, and then enter the County's LCP jurisdiction as it continues east along Lapis Road and Del Monte Boulevard, then Charles Benson Road. A total of 5,365 linear feet of this 42-inch pipeline would be within the County's coastal zone.
- The Desalination Water Pipeline would be constructed along part of the same route as the Source Water Pipeline. Starting at the desalination facility outside of the coastal zone, it would run west along Charles Benson Road and then follow the same alignment as the Source Water Pipeline along Del Monte Boulevard and Lapis Road and continue further south to the City of Marina. About 7,207 linear feet of this pipeline would be within the coastal zone.
- The Transmission Main Pipeline would connect to the Desalination Water Pipeline to transport water further south to an existing pipeline in the City of Seaside that Cal-Am would rely on to transport the water to its customers in the Monterey Peninsula area.[5] Several thousand feet of this Transmission Main Pipeline would be within the coastal zone.
- The Castroville Pipeline would connect to the Desalination Water Pipeline at Lapis Road and run to the north until it leaves the coastal zone. A portion of the pipeline would be attached to the Monte Road Bridge to cross the Salinas River. This location is just outside the coastal zone, though construction would occur within the coastal zone.[6]

As noted above, Cal-Am would install pipelines that could accommodate its full proposed 6.4 mgd capacity for any future second phase but would initially operate the pipelines at about two-thirds of that capacity in the first phase.

Many of the proposed pipeline routes would be through environmentally sensitive habitat areas ("ESHA"). In October 2022, in response to Commission staff concerns about the scope of the Project's impacts on ESHA and the potential to reduce those impacts, Cal-Am modified its proposed pipeline routes to avoid some areas of ESHA and modified its installation methods to identify several areas where it would reduce

[5] A dispute exists over whether Cal-Am currently has approval to use this existing pipeline. The pipeline's majority owner, the Marina Coast Water District, has determined that the pipeline does not have sufficient capacity for Cal-Am's proposed use, though Cal-Am disagrees with that determination and asserts that it has the authority to use the pipeline. This issue is described further in the Assessment of Alternatives in Section IV.O below.

[6] The coastal zone boundary runs along the centerline of the bridge, and the pipeline would be installed inland of the boundary.

impacts by using various tunneling techniques instead of trenching to reduce surface impacts to ESHA.

Outfall modifications: Cal-Am would direct its brine discharge from the desalination facility through an outfall owned by M1W, a public agency in Monterey County. The outfall is currently used to discharge treated wastewater from Monterey One's regional wastewater treatment facility in northern Monterey County to about 11,000 feet offshore in Monterey Bay. The outfall terminates at a diffuser that is about 1,000 feet long and that has over 100 ports through which the discharge reaches ocean waters. Cal-Am is expected to be required to modify the diffuser system so that its discharge conforms to Ocean Plan requirements.[7] Those modifications are expected to include Cal-Am replacing the existing end gate of the outfall, installing monitoring buoys anchored to the seafloor to obtain baseline and operational data related to water quality and biological resources in the area of the discharge. Cal-Am must also install, prior to starting desalination facility operations, about 20 corrosion-resistant clamps within the nearshore portion of the outfall to replace existing clamps that would not provide sufficient protection to the outfall from the desalination brine. This installation would involve work on the beach and placement of fill in coastal waters.

Additionally, Cal-Am must install an approximately two-mile long liner within the existing wastewater outfall to protect the outfall from the corrosive effects of the desalination brine. Although Cal-Am does not seek authorization for the liner in this present Commission action, it is appropriate for the Commission to review those proposed outfall modifications necessitated by the desalination operations for issues under the Coastal Act and relevant LCPs. On that issue, the CPUC included the outfall modification component as a required mitigation measure in its FEIR/FEIS and analyzed the foreseeable impacts of an earlier version of the liner installation work, which would have involved several excavations along the pipeline route within sensitive habitat areas.

Cal-Am did not include the outfall modification work in its CDP application, as it does not own the ocean outfall or hold the existing outfall CDP, and was relying on an agreement it was developing with M1W to identify which entity would fund the work, apply for needed permits, and install the liner. Cal-Am informed Commission staff that Cal-Am and M1W had reached agreement on a 95% design for the proposed liner and for the associated brine mixing structure that would be built at the facility; however, that agreement has since expired. That design is substantially similar to the version evaluated in the FEIR/FEIS and would have similar impacts. However, the agreement between Cal-Am and M1W has expired and M1W is now considering whether to implement this design or an alternative approach that would combine the liner installation work for the desalination facility with an outfall relocation/rehabilitation project that M1W had planned previously to undertake as a separate and independent

[7] The Regional Water Quality Control Board is reviewing Cal-Am's proposed project to determine whether it would be consistent with Ocean Plan requirements applicable to seawater desalination facilities. See Section IV.J of these Findings.

project. If the outfall liner work and relocation project proceeds as a combined project, it could involve more extensive repair or replacement of most of the outfall located on the upland portions of the coastal zone as a result of the outfall relocation component. This combined project has not yet been designed or gone through environmental review or permitting and will require M1W and Cal-Am to develop an agreement on how to implement the project.[8] That combined outfall liner work and relocation project will likely require an amendment to the CDP that M1W received from the Commission for initial construction and operation of the outfall.

Special Condition 1 addresses this issue by requiring Cal-Am, prior to issuance of this coastal development permit, to provide documentation that the outfall liner needed for its proposed desalination facility has received all necessary approvals for use of the M1W outfall. If, however, Cal-Am and M1W do not agree on pursuing the outfall liner work and relocation project as a combined project, the two projects would proceed separately and likely require separate CDPs. In any event, because Cal-Am's proposed desalination facility necessitates the outfall liner work (but not M1W's independently planned outfall relocation), Commission staff has reviewed the impacts from the outfall liner.[9]

Ratepayer Assistance. As part of this Project, Cal-Am is proposing low-income ratepayer assistance.[10] During the duration of this permit, Cal-Am will cap any rate increases resulting from the Project to $10 per month for customers who qualify for Cal-Am's existing Customer Assistance Program until it implements any CPUC-approved rate relief programs that effectively cap rate increases to no more than $10 per month for such customers. To that end, Cal-Am proposes to pursue CPUC approval of one or more rate relief programs to offset the costs of the Project on low-income ratepayers enrolled in the Customer Assistance Program and to expand eligibility requirements for the discount offered by its Customer Assistance Program. This could include, for example, include approval to expand the discount offered by its existing Customer Assistance Program from 30-50%, to expand eligibility requirements to include region-specific income guidelines, or to expand a multi-family rate assistance pilot program in Monterey. Additionally, and separate from its proposals to the CPUC, Cal-Am will offer free installation of low-flow water fixtures for low-income customers in single-family or multi-family residences to help contribute to conservation efforts. Finally, Cal-Am proposes to contribute $500,000 to a United Way Hardship Fund. Cal-Am will also

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[8] This may also require approval or involvement by the Marina Coast Water District, which has an existing agreement with Monterey One Water giving it the priority right to discharge brine through the outfall. See February 12, 2010 Outfall Agreement between Monterey Regional Water Pollution Control Agency (now Monterey One Water) and Marina Coast Water District.

[9] If the outfall liner work proceeds as a combination project with Monterey One Water's planned outfall relocation project, Cal-Am's desalination project will not materially affect the relocation component of a combined project. Thus, Commission staff is not reviewing the outfall relocation for purposes of this present CDP application and appeal.

[10] Cal-Am's original proposal regarding ratepayer assistance is included as Exhibit 4. That proposal was subsequently modified, as reflected herein.

evaluate measures to avoid water shutoffs for low income ratepayers. Special Condition 16 reflects measures to effectuate these ratepayer assistance proposals.

Project timing
Initial construction for the Project's first phase would occur over an approximately two-year period. Cal-Am anticipates that its desalination facility would have an operating life of about 60 years (until about 2085), though its slant wells would have expected operational lives of 20 to 25 years, at which point Cal-Am anticipates evaluating both updated coastal hazard conditions and whether the wells need to be rehabilitated or relocated to continue supplying source water for its facility. Coastal resource issues related to the slant wells' expected operating life are described below in Section IV.H of these Findings.

Project objectives
The Project's primary purpose is to provide Cal-Am a source of water to serve its customers' current and future demands while reducing Cal-Am's reliance on water from the Carmel River.

As stated in the FEIR/FEIS, the primary objectives for the MPWSP are:

1) Develop water supplies for Cal-Am's Monterey District service area to replace existing Carmel River diversions in excess of Cal-Am's legal entitlement of 3,376 acre-feet per year, in accordance with SWRCB Orders 95-10 and 2016-0016;
2) Develop water supplies to enable Cal-Am to reduce pumping from the Seaside Groundwater Basin from approximately 4,000 to 1,474 acre-feet per year, consistent with adjudication of the groundwater basin, natural yield, and improvement of groundwater quality;
3) Provide water supplies to allow Cal-Am to meet its obligation to pay back the Seaside Groundwater Basin by approximately 700 acre-feet per year over 25 years as established by the Seaside Groundwater Basin Watermaster;
4) Develop a reliable water supply for the Cal-Am Monterey District service area, accounting for the peak month demand of existing customers;
5) Develop a reliable water supply that meets fire flow requirements for public safety;
6) Provide sufficient water supplies to serve existing vacant legal lots of record;
7) Accommodate tourism demand under recovered economic conditions;
8) Minimize energy requirements and greenhouse gas emissions per unit of water delivered; and
9) Minimize Project costs and associated water rate increases.

The FEIR/FEIS also included the following secondary objectives for the MPWSP:

1) Locate key Project facilities in areas that are protected against predicted future sea-level rise in a manner that maximizes efficiency for construction and operation and minimizes environmental impacts;

2) Provide sufficient conveyance capacity to accommodate supplemental water supplies that may be developed at some point in the future to meet build out demand in accordance with adopted General Plans; and
3) Improve the ability to convey water to the Monterey Peninsula cities by improving the existing interconnections at satellite water systems and by providing additional pressure to move water over the Segunda Grade.

B. PROJECT BACKGROUND

This section discusses two main components of the area's history and background relevant to the proposed Project – a recent history of water issues in the Monterey area and background on the site of Cal-Am's proposed well field at the CEMEX sand mining facility. It refers to several entities involved in the area's relatively complex water management and delivery systems, including the following, whose jurisdictions are illustrated in **Exhibit 5**:

- **California-American Water Company ("Cal-Am"):** Cal-Am is a private, investor-owned company that supplies water for areas on and near the Monterey Peninsula. Its service area includes the Cities of Monterey, Seaside, Sand City, Carmel-by-the-Sea, and Del Rey Oaks, and nearby portions of Monterey County. Cal-Am's rates are regulated by the California Public Utilities Commission ("CPUC"). There is a pending CPUC proceeding that will determine if there is a need for Cal-Am's desalination facility based on longer term water supply and demand estimates.
- **Monterey Peninsula Water Management District ("MPWMD"):** MPWMD is a public agency whose main functions are to augment the regional water supply through integrated management of surface and ground water, conservation, and water reuse and reclamation. MPWMD's service area overlaps Cal-Am's to a large degree and includes areas within the Cities of Carmel-by-the-Sea, Del Ray Oaks, Monterey, Pacific Grove, Seaside, and Sand City, along with other nearby areas. For purposes of these Findings, one of MPWMD's important functions is to assist Cal-Am in developing a legal water supply.[11]
- **Monterey One Water ("M1W"):** M1W is a regional, public agency primarily involved with collection, conveyance, and treatment of wastewater within its service area, which includes much of the region between Moss Landing to the north, Pacific Grove to the west, and Salinas to the east. For purposes of these Findings, one of M1W's important roles is its management of the Pure Water project, which provides the foundation for the Pure Water Expansion that the Commission has identified as a near-term feasible alternative to Cal-Am's proposed Project.
- **Marina Coast Water District ("MCWD"):** MCWD provides potable water to about 35,000 people in and near the City of Marina. Over the next several

[11] See MPWMD's website at https://www.mpwmd.net (accessed August 6, 2020).

decades, it is projected to serve about twice that number of people, due to the expected development of the nearby former Fort Ord Army Base. MCWD obtains its water from wells within the Salinas Valley Groundwater Basin, the same aquifer system that Cal-Am would use as the source for its proposed well field.

Other involved entities include the Castroville Community Services District ("CCSD"), which provides water, sewer, and other services to the community of Castroville in northern Monterey County. The CCSD relies primarily on wells withdrawing water from the Salinas Valley Groundwater Basin. The CCSD is outside of Cal-Am's service area but would be involved in Cal-Am's proposed Project because it would receive potable water from Cal-Am based on a CPUC-approved Return Water Agreement among Cal-Am and other entities within the Salinas Valley Groundwater Basin. This is more fully described below.

Recent History of Water Issues in Monterey Area

The Monterey area has had long-standing difficulties and constraints with its water supply. The area has no imported water sources local supplies have sometimes been insufficient to provide the expected amount of water. Over the past several decades, a number of water supply projects have been proposed, but for various reasons not all have been completed.

Cal-Am has provided water to the Monterey Peninsula area since 1966. Its primary source of water has been a series of wells along the Carmel River that draw water from the aquifer underlying the river. Cal-Am also shares a network of wells in the Seaside Groundwater Basin with other water users.

In 1995, the State Water Resources Control Board ("State Water Board" or "SWRCB") issued a cease-and-desist order (Order 95-10)[12] that substantially reduced the amount of water Cal-Am was able to legally withdraw from the Carmel River. Cal-Am had previously been pumping an annual average of about 10,370 acre-feet per year from the river, but the State Water Board determined that Cal-Am had a legal right to withdraw no more than 3,376 acre-feet annually. The State Water Board's Order required Cal-Am to take any of several steps to address this issue – obtain the necessary appropriative rights, obtain water from other sources that would allow it to reduce its use of Carmel River water, and/or obtain water from other entities that have the rights to use Carmel River water. The Order also directed Cal-Am to reduce its Carmel River Basin water use in part by maximizing its use of water from the Seaside Groundwater Basin.

Around the same time, the Monterey Peninsula Water Management District (MPWMD) proposed constructing a new dam on the Carmel River; however, local voters rejected

[12] See State Water Resources Control Board, Order No. WR 95-10, Order on Four Complaints Filed Against the California-American Water Company, Carmel River, Monterey County, July 6, 1995.

the dam's financing plan and the dam was not built. Shortly thereafter, two species in the Carmel River watershed were listed as "threatened" under the federal Endangered Species Act – the red-legged frog in 1996 and the steelhead trout in 1997, which severely limited any future consideration of dams on the river.

In 1998, state legislation directed the CPUC to develop a water supply plan for the Monterey Peninsula that did not include a dam.[13] In 2009, the State Water Board issued a second cease and desist order with a deadline of December 31, 2016 for compliance, which the SWRCB subsequently extended to December 31, 2021, for the exceedances of diversions from the Carmel River. in 2013, Cal-Am and other stakeholders proposed the initial version of the currently proposed Project. In April 2013, Cal-Am filed an application with the CPUC for the MPWSP, which included the Project's slant wells that would be located at the CEMEX site, a desalination facility to be located about two miles inland adjacent to a regional wastewater treatment facility, pipelines, and the other related facilities needed to produce and deliver water to Cal-Am's service area on the Monterey Peninsula. The CPUC, in conjunction with the Monterey Bay National Marine Sanctuary, prepared a joint Environmental Impact Review/Environmental Impact Statement ("FEIR/FEIS") to meet requirements of the California Environmental Quality Act and National Environmental Policy Act. In September 2018, the CPUC certified the FEIR/FEIS and issued its Certificate of Public Convenience and Necessity for the proposed Project.[14]

The decision required Cal-Am to construct a smaller desalination facility than it had initially proposed – a 6.4 mgd facility instead of an originally proposed 9.6 mgd facility – and to purchase water from the Pure Water project, a water recycling and aquifer recovery and storage project that was being developed by two public water agencies, the Monterey Peninsula Regional Water District and M1W. The Pure Water project is now operating and is providing about 3,500 acre-feet per year to be used by Cal-Am or stored in the Seaside Basin aquifer for future use. Despite ongoing drought conditions, it produced during its most recent reporting year (July 2021 – June 2022) 3,673 acre-feet, or 173 acre-feet more than expected. It is more thoroughly described below in Section IV.O – Assessment of Alternatives. The Pure Water project also serves as the base project for the Pure Water Expansion project, which the CPUC is currently considering as an additional water source for Cal-Am to use and is also described in Section IV.O below.

After the 2018 CPUC decision certifying the FEIR/FEIS and issuing a certificate of public convenience and necessity for the proposed desalination Project, Cal-Am then

[13] AB 1182 required the CPUC to consult with Cal-Am and a number of affected parties to prepare a contingency water supply plan that did not rely on a new dam.

[14] CPUC No. A-12-04-019, Decision Approving a Modified Monterey Peninsula Water Supply Project, Adopting Settlement Agreements, Issuing Certificate of Public Convenience and Necessity and Certifying Combined Environmental Report, Decision, September 13, 2018, as modified and affirmed in D. 19-01-051 (February 5, 2019).

submitted two CDP applications: one to the City of Marina for Project components proposed within the City's coastal zone, and another, consolidated CDP application for components of the proposed Project within the Commission's retained jurisdiction and those within the coastal zone of the County of Monterey and the City of Seaside. In March 2019, the City denied Cal-Am's request for a permit and Cal-Am and others appealed that decision to the Commission. In November 2019, the Commission found substantial issue existed with respect to the appeal but continued both the de novo appeal and the consolidated permit review until a subsequent hearing scheduled for September 17, 2020. The staff report for that hearing had recommended the Commission deny Cal-Am's permit, in part due to staff concluding that there was a feasible and less environmentally damaging alternative that would provide sufficient water for Cal-Am's customers. This was based in part on Commission staff having updated water use data and demand projections that was not available as part of the CPUC's review and 2018 decision approving the 6.4 mgd desalination Project. Shortly before that September 2020 Commission hearing, Cal-Am withdrew its CDP application, but resubmitted it in November 2020 and modified it in October 2022 to include the proposed phased construction approach. That is the application the Commission is considering for the present action.

Background and history of the CEMEX sand mining facility: As noted above, the location of Cal-Am's proposed well field has been used for sand mining for over a century, most recently by its current owner, CEMEX. The site includes sedimentation ponds, sand mining equipment and related infrastructure, accessways, and stockpile areas, some of which have remained in relatively the same location for several decades and some of which have moved within the site due to changing production levels, shifts in the surrounding dunes, changes in sand delivery to the site from the Bay, and other factors. In the mid-1980s, the Monterey Peninsula Water Pollution Control Agency (now M1W) constructed the outfall Cal-Am proposes to now use along the southern portion of the CEMEX site.

In addition, violations of the Coastal Act and/or City of Marina LCP exist on the subject property including, but not limited to, unpermitted development with adverse effects on ESHA and coastal waters. These violations took place both prior to and during Cal-Am's interest and involvement in the property. With this application, Cal-Am is not proposing to resolve these violations. These prior violations at the site are the subject of Settlement Agreements reached in 2017 between CEMEX and the Coastal Commission, State Lands Commission and the City of Marina. The Settlement Agreement between CEMEX and the Coastal Commission required, among other things, that CEMEX stop sand mining by December 31, 2020, to conduct certain reclamation activities, to transfer the property to a non-profit or government entity with a deed restriction that ensures protection of the site for public access, open space, and habitat, and to provide such protections until the transfer has been effectuated. The anticipated restoration activities have not yet been completed but are underway in some areas, and the property transfer has not yet occurred, though the future uses anticipated at the site are restoration, low-impact passive recreation, public access, and public education, consistent with the terms of the Settlement Agreement.

The Settlement Agreement also recognized then-existing legal rights at the site, which included a recorded easement and option for Cal-Am to use and eventually purchase or acquire an easement over the approximately 30-acre area on which it planned to build the well field, along with a 30-foot-wide easement within and along the CEMEX access road for the Source Water Pipeline. In 2018, Cal-Am exercised this option to obtain a permanent 30-acre easement and the access easement as the proposed location the well field.

More recently, other alleged violations have been discovered on the CEMEX site, in a portion distinct from the Cal-Am easement, and those are the subject of an active enforcement investigation.

C. Jurisdiction and Consolidated Permit Review

Project components would be located in several local jurisdictions both within and outside of the coastal zone, as well as within the Commission's retained permit jurisdiction. As noted above, the desalination facility and segments of the water transmission pipelines would be located outside the coastal zone within the County of Monterey's jurisdiction. The pipelines would be located within the certified LCP jurisdictions of Monterey County and the Cities of Seaside and Marina, and within an area of deferred certification where the Commission has permit jurisdiction. The Project's proposed well field would be located largely within the City of Marina's LCP jurisdiction, while those subsurface portions of the wells that extend seaward beyond the mean high tide line, along with modifications to the existing outfall, would be within the Commission's retained permit jurisdiction. All Project components within the coastal zone and outside the City of Marina are being evaluated herein pursuant to consolidated permit review, as provided by Coastal Act Section 30601.3. The standard of review for these components is Chapter 3 of the Coastal Act.

The other Project components that are within the City of Marina's LCP jurisdiction are evaluated herein pursuant to appeals of the City's decision denying Cal-Am's CDP application to construct and operate slant wells, a water transmission pipeline, and associated infrastructure that would be located within the City's LCP jurisdiction.[15] On November 14, 2019, the Commission found that substantial issue existed with respect to these appeals. The standard of review for these Project components is the City's certified LCP, which consists of its Local Coastal Land Use Plan (LCLUP) and its Local Coastal Program Implementation Plan (LCPIP). The relevant policies and measures of these documents are codified in Chapter 17.41 of the City's Municipal Code under "Coastal Zoning" and are implemented through requirements and development standards identified in the Ordinance. In addition, the Commission analyzes whether

[15] On March 7, 2019, the City's Planning Department denied Cal-Am's CDP application. Cal-Am appealed the decision to the City Council, but then withdrew that appeal and instead appealed directly to the Commission. On May 13, 2019, the City issued its Final Local Action Notice, which started a 10-working day appeal period, during which the Commission received five valid appeals. Pursuant to Coastal Acct Section 30621, the Commission must hear an appeal within 49 days of the date an appeal is filed, unless the Applicant waives that 49-day period, which Cal-Am did on May 30, 2019.

Project components located between the first public road and the sea are consistent with the public access and recreation policies of the Coastal Act.

Scope of review: Cal-Am and some other commenters have questioned the Coastal Commission's jurisdiction to analyze, as part of its Coastal Act review, water rights, water supply and demand, the public need for the Project, and some related issues. Cal-Am asserted that "only the CPUC has the authority to make binding determinations as to the levels of supply and demand within Cal-Am's service area." It also asserted that "the issue of water rights is not for the Commission to decide," and that the Commission should defer to the State Water Board on questions related to water rights and water quality. As explained below, the Commission, CPUC, and State Water Board all have separate, but sometimes overlapping roles, with regard to Cal-Am's proposed Project.

The Commission has the authority and duty to analyze whether aspects of the Project within the coastal zone are consistent with the Coastal Act and/or the City of Marina's LCP. As a responsible agency under CEQA, the Commission must also consider the FEIR/FEIS certified by the CPUC, analyze the environmental effects of the portions of the Project within the coastal zone, and consider whether there are feasible mitigation measures or alternatives available that would lessen or avoid any such significant impacts.[16] As part of its Coastal Act review in this case, the Commission must consider whether the Project will have groundwater effects, whether there are feasible alternatives to the Project, whether denial of the Project would adversely affect the public welfare, and whether the Project would cause an unequal distribution of environmental burdens. (See Coastal Act §§ 30231, 30233, 30260, 30604(h).) To make these findings—and particularly the public welfare and feasibility findings—the Commission needs to consider whether the Project's full water supply is needed and whether an alternative water supply project is feasible and would provide sufficient water. It also must consider whether there are uncertainties regarding Cal-Am's water rights or other authorizations that the Commission should address.

In analyzing these issues, the Commission should consider, and may rely on, information and conclusions reached by the CPUC and on advice provided by the State Water Board. The CPUC has exclusive jurisdiction to set rates for regulated water utilities. The CPUC has expertise in water supply and demand issues as well as the fairness of water customers' rates, but the Commission retains authority to review the Project for need and to evaluate environmental justice issues.

The Commission's review of Cal-Am's current proposal is being done concurrently with a CPUC proceeding that addresses, among other issues, water supply and demand

[16] The Commission need not create a separate document to carry out its CEQA obligations; rather, the Commission uses its certified regulatory program in lieu of needing to adopt a separate environmental impact report or other CEQA document. (See Pub. Res. Code § 21080.5; 14 Cal Code Regs. § 15251(c).) Thus, the analysis in these Findings satisfies any CEQA obligations the Commission has.

estimates for Cal-Am's service area through 2050 (see CPUC Proceeding No. 21-11-024). An overview of the pending CPUC proceeding is summarized below:

- After Cal-Am withdrew its Project application to the Commission in 2020, MPWMD filed a complaint with the CPUC against Cal-Am and requested that the CPUC order Cal-Am to enter into an amended water purchase agreement for the Pure Water Expansion project. Ultimately, the CPUC dismissed that complaint as premature but ordered Cal-Am to file an application to the CPUC to update Cal-Am's overall Monterey Peninsula Water Supply Project plan.

- Cal-Am subsequently filed an application in 2021 with the CPUC to request CPUC approval of (1) an amended water purchase agreement for the Pure Water Expansion Project, (2) updated supply and demand estimates for the Monterey Peninsula Water Supply Project plan, and (3) cost recovery. The CPUC phased the proceeding as follows: (1) Phase 1 addresses whether CPUC approval of the Amended Water Purchase Agreement for the Pure Water Expansion project is reasonable, prudent, and in the public interest based on near-term supply and demand estimates (among other factors); and (2) Phase 2 addresses longer-term supply and demand estimates to evaluate any need for additional water supply beyond the Pure Water Expansion project. The CPUC also indicated that a third phase may be warranted. but the CPUC has not yet specified the issues for that third phase. It seems likely, however, that if there is a third phase, the CPUC would consider, among other things, the timing and size of the proposed desalination Project.

- In Phase 1 of the CPUC proceeding, no parties disputed approval of the Amended Water Purchase Agreement for the Pure Water Expansion project. On September 30, 2022, the administrative law judge issued a proposed decision in Phase 1 to authorize Cal-Am to enter into the Amended Water Purchase Agreement for the Pure Water Expansion project.

- The parties to the CPUC proceeding are currently litigating Phase 2 issues – namely, long-term supply and demand estimates for the region. The parties have presented a range of projections for the CPUC to consider, and the CPUC is likely to issue a decision on Phase 2 issues by the first half of 2023 at the earliest. Several parties to the CPUC, including Cal-Am, have provided their projections to the Commission to consider as part of this Commission proceeding.

Although the Commission considers the need for Cal-Am's proposed Project in the context of the "public welfare" element of Section 30260 of the Coastal Act, which is a necessary component of its review, it recognizes that the CPUC will reach a decision on longer-term supply and demand estimates after extensive testimony, evidence, and briefing on this issue. The Commission also recognizes that, unlike with Cal-Am's 2020 CDP application, the CPUC and the Commission are reviewing the same sets of supply and demand figures to evaluate the need for the Project. Moreover, Cal-Am's Project

cannot proceed without CPUC approval. The Commission is therefore requiring through **Special Condition 1** that its approval of this consolidated coastal development permit and its de novo approval of the coastal development is subject to a final adjudication of the issues in the current CPUC proceeding. **Special Condition 2** additionally requires Cal-Am to submit an application to amend this permit if it proposes to construct and operate Phase II of the Project. It also requires Cal-Am, as part of that application, to include the CPUC's approval of Phase II. This is further detailed in Section IV.O below.

Regarding the State Water Board, the Coastal Act prescribes some limits on the Commission's jurisdiction vis-à-vis the State Water Board, stating that the Commission may not act in a manner that conflicts with any determination by the State or a Regional Water Board "in matters relating to water quality or the administration of water rights." (Coastal Act § 30412(b).) Similar to the above, the Regional Water Board and State Water Board are in the midst of reviewing Cal-Am's Project's conformity to water quality standards and an analysis of issues related to water rights, respectively. Regarding water quality considerations, the Regional Board is expected to review an application from M1W to accommodate Cal-Am's effluent flows into the M1W outfall. Some of the modeling work has been done to determine how the Cal-Am brine effluent can be discharged in a manner consistent with the state's Water Code and Ocean Plan. Currently available results show that the discharge can meet those requirements if Cal-Am or M1W make the structural changes to the outfall described in the Project description above and in Section IV.K – Protection of Marine Life and Water Quality. The Commission is evaluating the effects of those structural changes on coastal resources; however, because the Regional Board cannot approve Cal-Am's discharge unless it is consistent with relevant Water Code and Ocean Plan requirements, the Commission is deferring to the Regional Board on matters related to the water quality components of the discharge, such as effluent limits and the extent of dilution zones, over which the Regional Board has controlling authority. The Commission's action here therefore complies with the above provision of Section 30412(b), as it does not impose a conflicting water quality limit on Cal-Am's Project.

In addition, the State Water Board's Administrative Hearings Office ("AHO") has a pending proceeding regarding Cal-Am's Project to decide various issues relating to water rights – namely, whether Cal-Am's withdrawals of a mix of groundwater and seawater from beneath the CEMEX site and beneath state tidelands would be subject to several of the state's water rights provisions.[17] The AHO is conducting this proceeding after the trial court in a pending lawsuit referred various issues to the AHO to resolve pursuant to Cal. Water Code § 2000.[18] That lawsuit, which was filed by the City of

[17] SWRCB November 17, 2021 Assignment of Court Reference in *City of Marina, et al. v. RMC Lonestar, et al.*, Monterey County Superior Court No. 20CV001387.

[18] *City of Marina v. RMC Lonestar, et al.*, Monterey County Superior Court No. 20CV001387 (Complaint filed May 11, 2020). On October 7, 2021, the trial court referred various issues to the SWRCB to determine. In the prior CPUC proceeding where the CPUC certified the FEIR/FEIS and issued a

Marina and others, challenges Cal-Am's ability to withdraw more than 500 acre-feet per year of groundwater from the proposed well field location. After the AHO's referee issues a proposed report and provides it to the SWRCB for consideration, the SWRCB will issue its final report and the SWRCB will send the report to the trial court to guide an adjudication of the case. The SWRCB's order is not binding on the trial court.[19] The Board's and court's adjudication of these matters could affect whether Cal-Am can conduct its pumping operations at this location, and if so, how much water it can extract, among other related issues.

As with the above examples, the AHO is in the midst of its proceeding, with a decision expected sometime in 2023, and parties to that proceeding have submitted documents from that proceeding for the Commission to consider as part of its evaluation of Cal-Am's CDP application and appeal. And – as with the above example, the Commission is acknowledging that the State Water Board (along with the courts) has primary responsibility to resolve water rights issues. Therefore, the Commission is imposing **Special Condition 1**, which requires Cal-Am to submit a final determination on these matters to demonstrate that it has, or can feasibly obtain, water rights for the Project. Therefore, the Commission's decision does not conflict with the above-referenced provision of Coastal Act Section 30412(b).

Other Agency Approvals & Consultations

The Project would be additionally subject to discretionary permits and approvals, including the following:

- **Monterey One Water:** Cal-Am will need to obtain authorization from M1W for connection to, and use of, the agency's ocean outfall, and, if required M1W will need to obtain authorization under the Coastal Act for modifications to the ocean outfall.
- **Monterey County:** Cal-Am obtained an encroachment permit from the County for construction of its pipelines within County jurisdiction. It also received a use permit from the County that allowed Cal-Am to start construction of the desalination facility; however, that permit has been stayed by the County Superior Court.
- **State Lands Commission:** Cal-Am will need to obtain two state tidelands leases from the State Lands Commission – a new or extended lease for its existing test slant well at the CEMEX site that Cal-Am proposes to make a permanent well, and a new lease for the other proposed slant wells. The current lease for the test well expires in December 2022 and Cal-Am has not yet submitted a lease application for the other wells.
- **Central Coast Regional Water Quality Control Board ("Regional Water Board"):** Cal-Am will need to obtain a National Pollution Discharge Elimination System

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certificate of public convenience and necessity for the desalination facility, the SWRCB issued an advisory opinion determining that it was reasonably foreseeable that Cal-Am had a path forward to obtain the necessary water rights. FEIR/FEIS, Appendix B2 (SWRCB letter to CPUC dated July 13, 2013). In the current litigation and AHO proceeding, the City of Marina asserts that new evidence, which was not available at the time that SWRCB issued its advisory opinion in 2013, supports the City's claims.

[19] See Water Code § 2019.

("NPDES") Permit allowing it to discharge brine through the MRWPCA outfall and to modify that outfall to allow the discharge. Cal-Am will also need to obtain approval from the Regional Water Board to ensure Cal-Am's use of groundwater from the Salinas Groundwater Basin is consistent with the Regional Water Board's adopted Basin Plan.

- **California Public Utilities Commission:** As discussed above, the CPUC is conducting a proceeding that will affect whether the CPUC will approve the Cal-Am's Project, including its size and timing.
- **California Department of Transportation ("CalTrans"):** Cal-Am has obtained encroachment permits from CalTrans for the segments of its pipelines that would be constructed within CalTrans rights-of-way.
- **Transportation Agency of Monterey County ("TAMC"):** TAMC has approved an Easement Purchase Agreement with Cal-Am for portions of the pipelines within TAMC rights-of-way.
- **Monterey Bay National Marine Sanctuary:** The Sanctuary has not yet issued a Record of Decision for its Final Environmental Impact Statement, though Cal-Am will also be subject to authorization from the Sanctuary to allow discharges into Sanctuary waters and drilling and disturbance of submerged lands within the Sanctuary.[20] The Sanctuary's consideration will likely involve review by the U.S. Fish and Wildlife Service and the National Marine Fisheries Service to ensure protection of species that may be affected by the Project.
- **Other landowners:** Cal-Am is negotiating with several private landowners along sections of its proposed pipeline routes, several of whom have stated that they would not consider providing approval until after the Coastal Commission's decision on the proposed Project.

Special Condition 1 requires Cal-Am, prior to permit issuance, to provide documentation from these agencies showing that it has received all necessary permits and approvals for its Project. Because of the number of approvals still required and the uncertainty about the timing and extent of some of these reviews, the general two-year permit expiration period in **Standard Condition 2** is modified to allow five years until permit expiration.

D. Findings on CDP Determination and De Novo Hearing

For portions of the proposed Project within the City of Marina's LCP jurisdiction that raised substantial issue, the Commission now reviews that portion of the Project de novo (as continued hearing from the originally scheduled September 17, 2020 hearing). Cal-Am has also applied for a consolidated CDP for portions of its proposed Project within the Commission's retained jurisdiction and within the certified LCP jurisdictions of the City of Seaside and the County of Monterey. The findings below address all portions of the Project within these jurisdictions, using the Coastal Act as the standard of review for those Project components within the Commission's consolidated permit

[20] The Sanctuary also served as lead agency under the National Environmental Policy Act ("NEPA") for the project's Environmental Impact Statement.

jurisdiction and using the City of Marina's certified LCP and Coastal Act public access and recreation policies as the standard of review for Project components within the City's LCP jurisdiction.

E. Environmentally Sensitive Habitat Areas – Terrestrial

Coastal Act Section 30240 states:

> (a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.
> (b) 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.

Coastal Act Section 30107.5 states:

> Environmentally sensitive area" means any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments.

Relevant City of Marina LCP Provisions

LCLUP Policy 19:

> Promote reclamation and protection of native dune habitat and vegetation.

LCLUP Policy 25:

> Protect the habitat of recognized rare and endangered species found in the Coastal dune area.

LCLUP Policy 26:

> Regulate development in areas adjacent to recognized rare and endangered species or their habitats so that they will not threaten continuation of the species or its habitat.

LCLUP Policy 41:

> Give priority to coastal-dependent development on or near the shoreline and to ensure environmental effects are mitigated to the greatest extent possible.

LCLUP Exhibit A states:

> **Primary habitat.** This term includes all of the environmentally sensitive habitat areas in Marina. These are as follows:
> 1. Habitat for all identified plant and animal species which are rare, endangered, threatened, or are necessary for the survival of an endangered species. These species will be collectively referred to as "rare and endangered." …

3. All native dune vegetation, where such vegetation is extensive enough to perform the special role of stabilizing Marina's natural sand dune formations.
4. Areas otherwise defined as secondary habitat that have an especially valuable role in an ecosystem for sensitive plant or animal life, as determined by one or more qualified biologists approved by the City. [Resolution No. 2001-118 (October 16, 2001); approved by CCC November 14, 2001]

Secondary habitat. This term refers to areas adjacent to primary habitat areas within which development must be sited and designed to prevent impacts which would significantly degrade the primary habitat. The secondary habitat area will be presumed to include the following, subject to more precise determination upon individual site investigation:

1. The potential/known localities of rare and endangered plant species as shown on LUP p. 71 ("Disturbed Vegetation" map).
2. The potential wildlife habitats as shown on LUP p. 75 ("Potential Wildlife" map).
3. Any area within 100 feet of the landward boundary of a wetland primary habitat area.

Rare and endangered species. This term will apply to those plant and animal species which are rare, endangered, threatened or are necessary for the survival of such species. The Environmental Analysis Report prepared for the Marina Local Coastal Program identified such species in the dune habitat areas. While future scientific studies may result in addition or deletion of species, the list presently includes:

1. Smith's Blue Butterfly **(**Shijimiaeoides enoptes smithi**)**[21]
2. Globose Dune Beetle **(**Coelus globosus**)**
3. Black Legless Lizard **(**Anniella pulchra nigra**)**
4. Salinas Kangaroo Rat **(**Dipodomys heermanni goldmani**)**
5. Seaside Painted Cup **(**Castilleja latifolia ssp. latifolia**)**
6. Monterey Spine Flower **(**Chorizanthe pungens var. pungens**)**
7. Eastwood's Ericameria **(**Ericameria fasciculate**)** [sic][22]
8. Coast Wallflower **(**Erysimum ammophilum**)**
9. Menzies' Wallflower **(**Erysimum menziesii**)**
10. Coastal Dunes Milk Vetch **(**Astragalus tener var. titi**)**
11. Dune Gilia **(**Gilia tenuiflora var. arenaria**)**
12. Wild Buckwheat **(**Eriogonum latifolium**)****
13. Wild Buckwheat **(**Eriogonum parvifolium**)****
14. Bush Lupine **(**Lupinus ssp.**)+**

* only within the range of Smith's Blue Butterfly.
\+ only within the range of the Black Legless Lizard.

[21] This name has been updated since publication of the LCP – it is now *Euphilotes enoptes smithi*.

[22] The correct spelling is *Ericameria fasciculata*.

LCLUP Habitat Protection Policies include:

> Before any use or change in use, areas identified as potential habitat for rare and endangered plant or animal species shall be investigated by one or more qualified biologist(s) to determine the physical extent of the primary habitat areas for the specific rare and endangered plants and animals on that site.
>
> Primary habitat areas shall be protected and preserved against any significant disruption of habitat values and only uses dependent on those resources shall be allowed within those areas. All development must be sited and designed so as not to interfere with the natural functions of such habitat areas. Management and enhancement opportunities should be incorporated into use or development proposals; potential impacts shall be fully mitigated, including the assurance of long-term mitigation and maintenance of habitat through the use of appropriate acreage replacement/restoration ratios for any unavoidable direct impacts to habitat areas.
>
> Potential secondary or support habitat areas to the primary habitats identified on the site should also be defined. Secondary habitat investigation should include identification of the role and importance of the secondary area to the primary habitat area and should stress the impact of use or development in the secondary area on the primary habitat. All development in this area must be designed to prevent significant adverse impacts on the primary habitat areas. In concert with State law, City ordinances shall require environmental review and appropriate mitigation of identified impacts for all development in the Coastal Zone, including the assurance of long-term mitigation and maintenance of habitat through the use of appropriate acreage replacement/restoration ratios for any unavoidable direct impacts to habitat areas.
>
> Available evidence indicates that dune vegetation is more resilient than previously thought, and areas damaged by illegal use or negligence shall be considered restorable and eligible for restoration.
>
> Where habitats of rare and endangered species are located on any parcel, owners and/or operators shall, at such time that development is proposed, develop and execute a Management Plan which will protect identified rare and endangered plant and animal communities. Each plan shall be drawn up by a qualified biologist(s) in co-operation with the property owner/developer.

LCLIP Regulations for Coastal Conservation and Development District Policy (b)(2)

> Regulations for coastal conservation and development uses shall be specified in the Coastal Development Permit. The permit-issuing body may approve Permit applications if the following factors, where relevant, are found to apply: …
>
> b. Development is limited to already-disturbed areas.
> c. Rare and endangered plant and animal habitats are adequately protected
> d. Grading and roadway construction are the minimum necessary for the development. …

g. All significant adverse environmental effects are either avoided or adequately mitigated.

ESHA within the City of Marina
Cal-Am's proposed well field and a portion of its Source Water Pipeline would be located on a 30-acre easement and an access easement within the CEMEX site in the City of Marina (see **Exhibit 3**). The Commission's 2014 Findings regarding Cal-Am's test well project at this same location determined that this area consisted of Environmentally Sensitive Habitat Area ("ESHA"). Similarly, a July 2017 site visit by the Commission's ecologist concluded with a recommendation that the full site be considered ESHA and more recent surveys conducted pursuant to the CPUC's CEQA review confirmed the continuing presence of several special-status species within the proposed well field.

ESHA determination under the LCP: The City's LCP establishes two types of habitats – "primary" and "secondary" – and describes the different levels of required habitat protection and allowable uses in each. The LCP states that primary habitat "includes all of the environmentally sensitive habitat areas in Marina" and defines it as being the "potential locale for rare and endangered plan [sic] and animal species and identified, at the time of development, by a qualified biologist as supporting rare and endangered plant and animal species." The LCP further states that "primary habitat areas shall be protected and preserved against any significant disruption of habitat values and only uses dependent on those resources shall be allowed within those areas." The LCP's "primary habitat" definition and its related provisions are similar to the Coastal Act's definition of ESHA, which is "any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments."[23] The LCP's use limitations in those primary habitat areas are also similar to the Coastal Act's, in that both allow only those uses that are dependent on the habitat resources. Because the LCP's policies derive from the authority of the Coastal Act, we read its policies regarding primary habitat to be consistent with those of the Coastal Act.[24]

The LCP's other category – secondary habitat – is defined as those areas "adjacent to primary habitat on which the primary habitat area is dependent or from which the primary area can be influenced by drainage, erosion, human, equestrian or vehicle use or other factors." The LCP requires that direct and potential impacts to both primary and secondary habitat be fully mitigated. While the LCP includes maps of areas presumed to be primary or secondary habitat, it notes that the actual determination of

[23] See Coastal Act Section 30107.5.

[24] The LCP derives its statutory authority from the Coastal Act, and all of its provisions, including the policies above, must be read consistent with and understood to conform to the Coastal Act as a matter of law (McAllister v. California Coastal Commission (2009) 169 Cal.App.4th 912, 931).

habitat type and category for a particular location must be based on a site-specific biological study.[25]

For several reasons, the area of coastal dune habitat where the proposed well field would be located is considered an area of primary habitat, and therefore ESHA. First, and as detailed below, although it would be in a previously disturbed area of the CEMEX site that consists largely of compacted and sparsely vegetated sand dunes, it nonetheless provides habitat for at least three threatened or endangered species, as described below. Additionally, a number of other special-status species are known to exist or have the potential to exist within the footprint or in adjacent areas of the dunes, and multiple sensitive native vegetation communities occur. The presence of these special-status species reinforces that the Project footprint includes primary habitat qualifying as ESHA. However, it would also arguably qualify on the basis of sensitive vegetation communities being present and the overall habitat type, dunes, as being rare.[26]

This type of dune habitat is easily disturbed by human activity. Nonetheless, even though this area is disturbed, degraded dune habitat located where key coastal processes are still at work generally has the ability to restore itself or be restored given the dynamic natural environmental processes shaping the landscape and the persistence of well-adapted native seed banks. The proposed well field area consists of the same substrate as the rest of the dune habitat and is contiguous to less disturbed or

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[25] The LCLUP policies regarding Rare and Endangered Species – Habitat Protection includes the following statement: "In Marina's Coastal Zone, the foredune, dune and grassy inland areas all contain potential habitat for rare and endangered plants and animals. The precise range for each plant and animal is not known because intensive site-specific study throughout the area was not financially possible. However, the potential for various rare and endangered habitats has been identified and mapped (see Environmental Capability section) to provide a guide to the locations where more intensive study is required. Because site-specific study is needed in many areas before any development can take place the following policies apply to all of the areas indicated on the map or meeting the definitions of Exhibit "A" as being potential habitats for rare and endangered plants and animals."

[26] Global (G) and State (S) Level 1 communities or species are identified as "critically imperiled = at very high risk of extinction due to extreme rarity (often <5 populations), very steep declines, or other factors". Global (G) and State (S) Level 2 communities and species are identified as "imperiled = at high risk of extinction or elimination due to restricted range, few populations or occurrences (often < 20), steep declines, severe threats, or other factors. Global (G) and State (S) Level 3 communities and species are identified as "vulnerable = at moderate risk of extinction due to a restricted range, relatively few populations (often <80), recent and widespread declines, or other factors". CDFW defines natural communities, animals, and plants with a global or state ranking of 1, 2, or 3 as rare and the CCC typically finds these to qualify as ESHA. CCC also typically considers plant and animal species listed by the federal and state endangered species acts (ESA and CESA, respectively) and/or identified under other special status categories (e.g., California Species of Special Concern) and/or identified by the California Native Plant Society (CNPS) as '1B' and '2' plant species as constituting ESHA. CNPS species identified as '3' or '4', and species recognized by other authorities as sensitive, may also qualify, depending on the specifics of the geography and situation. In addition to a basis on rarity, the CCC may also recognize habitat as ESHA on the basis of being 'especially valuable' for its 'special role' or 'special nature' rather than on the basis of rarity. In this case, examples of why the habitats in the Project area qualify as ESHA include overlap among all of the above.

undisturbed areas. Barring ongoing disturbance or development, the well field site would soon be colonized by dune biota, either from the adjacent areas or from buried seed stock. In fact, this has been observed in other areas of the parcel as CEMEX scaled-back its operations in preparation for closure – native dune species have appeared where they have been neither planted nor seeded during reclamation activities, instead appearing following the removal of invasive species and cessation of ongoing development activities. The presence of the above-noted threatened or endangered species in the Project area provides further evidence that this degraded and historically manipulated area still provides valuable coastal dune habitat, may recover in terms of quality and extent, and could likely support other rare or threatened species if not further disturbed.

Further, the City's LCP acknowledges that disturbed dune habitat is resilient and relatively easy to restore.[27] The LCP also requires that the reclamation and protection of native dune habitat be promoted, and that habitat for rare and endangered species, such as this dune habitat, be protected (see LUP Policies 19 and 25). The Commission, too, has previously found that even degraded dunes can provide habitat for rare and threatened dune species and that degraded dune areas can constitute ESHA.[28] Thus, interpreting the LCP's definition of primary habitat consistent with the Coastal Act, the Commission finds that the coastal dune area in which the well head portions of the Project would be located constitutes ESHA and meets the description of primary habitat under the LCP.

As noted above, the LCP limits uses within primary habitat to those dependent on the resources,[29] and any development within those areas is limited to that which is sited and designed to not interfere with the natural functions of the habitat. The LCP also requires that all adverse effects in primary habitat be fully mitigated. Although the Project is proposed to be located in portions of the CEMEX site that have been subject to disturbance, the entire area in which the well field would be located is primary habitat and ESHA under the LCP. The Project is not a resource-dependent use, so it cannot be approved consistent with the LCP's habitat protection policies. Importantly, the FEIR/FEIS identified the Project's inconsistency with these LCP provisions as a significant and unavoidable impact.[30]

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[27] See the fourth paragraph of the LCLUP Habitat Protection Policies.

[28] See, for example, Commission actions in the Asilomar Dunes system (including Youssef (CDP 3-11-068) and Goins (CDP 3-11-020)), MBARI (CDP A-3-MCO-17-0068), Oceano Dunes (CDP 4-82-300 Review in 2021), City of Grover Beach LCP Amendment 1-12, Part 1 (Grover Beach Lodge), Koligian (Commission denial of CDP application A-3-PSB-10-062), and California Department of Parks and Recreation (CDP 3-11-003).

[29] LCLUP Habitat Protection Policy Paragraph 2.

[30] See FEIR/FEIS, Section 4.6 – Terrestrial Biological Resources.

Site background and habitat characteristics: The CEMEX site largely consists of central foredune habitat, which is one of the most important, vulnerable, and geographically constrained environmentally sensitive habitat types in California. In the 2010 update to the status of the state's natural communities, CDFW assigned central foredune habitat the highest rarity ranking as "critically imperiled", this qualifying it as ESHA.[31] Dunes form only under certain conditions where adequate sand supply and appropriate wind energy and direction allow. They are a dynamic habitat subject to extremes of physical disturbance, drying, and salt spray. The winds and shifting sands in dune habitat can cause the habitat characteristics and the species at any given location to change on a relatively short or shifting timescale, so a particular area of dune habitat may have relatively higher or lower resource values over time. The changing and often harsh conditions found in coastal dune habitat support plant and animal species that have evolved strategies adapted to these conditions – for example, many dune plants have seeds that can remain dormant for extended periods of time until conditions allow for them to germinate. Many of the plant and animal species adapted to these geographically constrained and relatively harsh conditions have become uncommon and are considered rare, endangered, or have a similar special status. It follows that assemblages of such unique species make for unique communities, and the dune-associated vegetation communities, as described in the Manual of California Vegetation, are also generally considered rare by CDFW.[32] At the same time, the ability of these various resources to withstand such challenging conditions or to remain dormant for long periods allows dune habitat, even severely disturbed dune habitat, to either be restored or to restore itself relatively easily. The habitat values in dune areas are therefore best understood in terms of the overall complex of dunes of which they are a part, and the Commission has typically found coastal dune habitat to be ESHA even when it is disturbed, due to its rarity, its important ecosystem functions, and its support of sensitive species and communities.[33]

Despite more than 100 years of active sand mining, the coastal dune habitat at the CEMEX site provides habitat for over two dozen sensitive species, including several listed as endangered or threatened. The habitat within and adjacent to Cal-Am's proposed well field and pipeline route also includes large areas of central dune scrub, which also qualifies as ESHA in part due to its CDFW ranking,[34] and which includes a

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[31] CDFW ranks this habitat type as G1 S1.2, which makes it "critically imperiled" both globally and within the state.

[32] For example, the dune mat vegetation (Abronia latifolia-Ambrosia chamissonis herbaceous alliance) present is ranked G3 S3, indicating that it is considered "vulnerable" both globally and within California, and qualifies as a sensitive natural community.

[33] This has been the Commission's approach to dune protection at other locations, for example, in the Asilomar Dunes area in Pacific Grove and the in the Del Monte Forest as well as sites like the Oceano Dunes State Vehicular Recreation Area.

[34] CDFW considered central dune scrub habitat as "imperiled" with rankings of G2 S2.2 in its 2010 update to the status of the state's natural communities.

number of sensitive plants and animals that have evolved and adapted to the desiccating, salt-laden winds and nutrient poor soils of this area. Several sensitive vegetation communities are also part of the central dune scrub, including silver dune lupin-mock heather scrub (Lupinus chamissonis-Ericameria ericoides shrubland alliance), which is ranked G3 S3 and considered ”vulnerable”. Between 2012 and 2016, consultants for Cal-Am and the CPUC conducted several biological surveys of the site.[35] These biological investigations, along with a 2017 site visit by the Commission's ecologist, identified several special-status plant and animal species present within or adjacent to the Project area.[36] More recently, surveys conducted in 2019 identified the continued presence of most of these species and added more records of their occurrences as well as a few additional sensitive species.

Species present on the site that are listed as threatened or endangered include:

- **Monterey spineflower** (*Chorizanthe pungens* var. *pungens*), an annual herb listed as federally-threatened under the Endangered Species Act (ESA). It also has a California Rare Plant Rank of 1B.2. It has been observed extensively throughout the CEMEX site, including the proposed well field area.
- **Smith's blue butterfly** (*Euphilotes enoptes smithi*), a federally-endangered species, also ranked by CDFW as S1, is obligate to two host plant species throughout its life cycle – coast buckwheat (*Eriogonum latifolium*) and seacliff buckwheat (*E. parvifolium*) – that grow in these coastal dunes. While the butterfly's flight season is only from mid-June to early September each year, larvae consume the plants' flowers and seeds and pupate directly on or beneath the plants, where they overwinter until the following flight season. The surveys identified both the butterfly and both species of buckwheat within the CEMEX site, including along the access road where Cal-Am's Source Water Pipeline would be built.
- **Western snowy plover** (*Charadrius nivosus nivosus*), is listed as threatened under the federal ESA and is considered a California Species of Special Concern by the CDFW, which ranks it as S2.[37] The shoreline along the CEMEX site is within designated critical habitat for the species and much of the site provides nesting, roosting, or foraging habitat. Nests are most common in the sparsely

[35] See survey dates and findings in Section 4.6 – Terrestrial Biological Resources of the project's Draft FEIR/FEIS.

[36] Along with direct observation during site visits, the presence of sensitive species was supported by historical documentation describing the presence of various sensitive species and communities at the site.

[37] CDFW's Species of Special Concern List includes a “NatureServe“ ranking system used by a network of agencies around the world. It assigns each listed species a level of risk based on both its Global abundance, where applicable, and its risk at the state level. Rankings include such categories as ”critically imperiled,“ “vulnerable,“ ”apparently secure,” and others. The S2 category for Western snowy plovers indicates the species is “at high risk of extirpation in the state due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors,“

vegetated beach and shore-most foredunes but have also been found further inland where the well field would be located and where they may become more common as shores continue to erode and succumb to sea level rise.

The site also serves as habitat for many other special-status species, including several plants on California's Rare Plant Inventory. The sand-loving wallflower (*Erysimum ammophilum*) is eligible for state listing and is considered rare, with a moderate to high degree and immediacy of extirpation (California Rare Plant Rating [CRPR] of 1B.2). It has been observed within the proposed well field area. The site also includes ocean bluff milkvetch (*Astragalus nuttallii* var. *nuttallii*; CRPR 4.2) and branching beach aster (*Corethrogyne leucophylla*; CRPR 3.2), which are included on the California Rare Plant Inventory as species of concern. Other special-status species are known to occupy nearby areas or have the potential to occur at the Project site, though they were not identified within the Project footprint during these surveys. Plant species include the federally-endangered Robust spineflower (*Chorizanthe robusta* var. *robusta*; CRPR 1B.1), the state- and federally-endangered Menzies' wallflower (*Erysimum menziesii*; CRPR 1B.1), the federally-endangered and state-threatened Sand gilia (*Gilia tenuiflora* ssp*. arenaria*; CRPR 1B.2), and the state-endangered Seaside bird's-beak (*Cordylanthus rigidus* var. *littoralis*; CRPR 1B.1). Two reptiles – the California legless lizard (*Anniella pulchra*; S2) and the coast horned lizard (*Phrynosoma coronatum* - S3), which are considered Species of Special Concern, were also documented during the 2019 surveys. Most recently, Cal-Am reported occurrences of Peninsula coast range shoulderband snail (*Helminthoglypta nickliniana awania* – S1), globose dune beetle (*Coelus globosus* – G1G2/S1S2), and American badger [burrows] (*Taxidea taxus* – S3; CDFW SSC).[38] Several sensitive bird species have also been documented using the area, including Bryant's savannah sparrow *(Passerculus sanwichensis alaudinus* - CA Species of Special Concern) and California horned lark *(Eermophila alpestris actia* - CDFW Watch List).

Native plants found within the dune scrub areas include California sagebrush (*Artemisia californica*), coast buckwheat (*Eriogonum latifolium*), deerweed (*Acmispon glaber*), California lilac (*Ceanothus* spp.), mock heather (*Ericameria ericoides*), silver dune lupine (*Lupinus chamissonis*), and sandmat manzanita (*Arctostaphylos pumila*; CRPR 1B.2). The site also includes many native foredune species, such as beach evening primrose (*Camissonia cheiranthifolia*), yellow sand verbena (*Abronia latifolia*) and beach bur (*Ambrosia chamissonis*). The access road to the CEMEX site has adjacent stands of Coyote Brush Scrub (*Baccharis pilularis* Shrubland Alliance), which is not considered a rare plant community at the alliance level but several vegetation associations within it can meet that designation.[39] Ongoing sand mining and processing operations appear to

[38] As stated in Cal-Am's proposed Habitat Mitigation and Monitoring Plan, June 2020.

[39] Vegetation communities are generally classified by the repeating patterns observed across a landscape, those patterns being described by the composition of plant species and reflecting the effects of local environmental conditions. The category of alliance is presently the most typical level of such classification used but at a more refined level are associations – one alliance can have many

have contributed to invasive vegetative species dominating several areas within the CEMEX site, particularly iceplant (*Carpobrotus* spp.). In some areas, a thick cover of iceplant has helped prevent establishment or re-establishment of native species; however, as disturbance is removed and reclamation and restoration activities proceed in certain areas of the CEMEX site under the terms of the CEMEX settlement agreement, the cover of invasives is declining, and the cover of natives due to restoration and native seedbank release is reportedly increasing.

Location and impacts of Project components within ESHA: Cal-Am's well field would be located on an area of this coastal dune habitat immediately landward of the foredunes that separate the well sites from the shoreline. This habitat had been disturbed during earlier sand mining activities at CEMEX when used for stockpile storage. The mining activities are now confined to a much smaller area and are scheduled to end this year, pursuant to provisions of 2017 Settlement Agreements between CEMEX and the Coastal Commission, State Lands Commission, and the City of Marina (Order CCC-17-CD-02").

The Settlement Agreement between the Coastal Commission and Cemex ("Settlement Agreement") required CEMEX to stop sand mining by December 31, 2020, to conduct certain reclamation activities, and transfer the property to a non-profit or government entity with a deed restriction that ensures protection of the site for public access, open space, and habitat. The anticipated restoration activities have not yet been completed but are underway in some areas, and the property transfer has not yet occurred, though the future uses anticipated at the site are restoration, low-impact passive recreation, public access, and public education.

The Settlement Agreement also recognized existing legal rights at the site, which included a recorded easement and option for Cal-Am to use and eventually purchase or acquire an easement over the approximately 30-acre area on which it planned to build the well field, along with a 30-foot-wide easement within and along the CEMEX access road for the Source Water Pipeline. In 2018, Cal-Am exercised this option to obtain a permanent 30-acre easement and the access easement.

Within this 30-acre easement, the Project would disturb about nine acres during construction of up to five separate well pads, an access road, and part of the Source Water Pipeline, which would continue inland along the easement. The proposed phased Project would reduce this somewhat, due to a reduction in the number of initially planned well pads and a shorter access road. Cal-Am also recently determined it could reduce impacts along the pipeline route within CEMEX by routing the pipeline within the road rather than adjacent to it within ESHA. Cal-Am expects that several of these disturbed acres – those that would be used for staging and materials storage – would be restored within five years after construction is complete. The Commission generally

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associations, each of these reflecting nuances that may be specific to a geography or narrower set of environmental conditions. CDFW describes and evaluates both alliances and their associations and determines which should rank as sensitive in the state; lists are updated biannually with new vegetation communities at both alliance and association levels and refinements to existing community ranks.

considers impacts to be temporary only where 1) the proposed activities do not include significant ground disturbance such as grading, trenching, or others that would kill vegetation, disrupt native seedbanks, alter topography or soil horizons, etc.; 2) the native vegetation is recovered to a comparable age class/size structure relative to pre-construction conditions within either a) 12 months of initial disturbance (I.e. short-term temporary), or b) 12 months following the conclusion of disturbance, if the disturbance has extended over no more than a 24-month period (I.e. long-term temporary). Anything failing to meet any of these criteria is, by default, considered to have a permanent adverse effect on the ecosystem. Due to the type of proposed activities and the expected five-year recovery period, Cal-Am's impacts here would not be considered temporary. Additionally, the expected need to conduct maintenance at the well sites every few years would result in ongoing impacts to about six of these acres, which could lead to ongoing disturbance during the expected recovery periods. Further, there would likely be more future losses due to the need to relocate the wells after their expected 20- to 25-year operating lives or due to sea level rise and coastal erosion.

Based on the presence of sensitive habitat areas (and coastal waters) within or adjacent to most of the Project's footprint, **Special Condition 3** requires Cal-Am to implement extensive and protective construction "best management practices" to avoid and minimize actual and potential impacts, and **Special Condition 4** requires Cal-Am to develop and implement a Spill Prevention and Response Plan to prevent spills to the extent possible and to respond appropriately if they do occur.

Various Project construction impacts are further detailed below:

- **Well and access road construction:** This work would involve use of heavy equipment, including drill rigs and motor vehicles, that would cause crushing of native vegetation, soil compaction, disturbance of seed banks within the work site noise effects, and potential for fuel spills. Each well site would be developed within a graded area of a few thousand square feet and would include concrete pads, electrical equipment, and other similar Project components. Cal-Am would grade, but not pave, a road to allow access to the well sites. As noted above, the Commission typically considers significant ground disturbance such as grading and compaction to have lasting effects on the ecosystem and thus, characterizes these impacts as permanent even if a foreign surface would not be evident. In this case, though the road would not be paved, it would be used regularly and thus, be subject to not only the initial ground disturbing activities but also ongoing operational impacts that would adversely affect any dune species that might begin to reestablish, precluding any (natural or facilitated) restoration to healthy habitat.

  Additionally, because the drilling work for each well needs to be done continuously, Cal-Am would need to time its well field construction activities to avoid disturbing nearby Western snowy plovers during their breeding and nesting season (which runs from March 1 to September 30 of any year). **Special Condition 5** requires Cal-Am to conduct its well field construction outside this period, unless otherwise authorized by the USFWS, with such authorizations potentially requiring an amendment to this

permit..[40] Smith's blue butterflies similarly stand to be subjected to disturbance and impacts across all stages of their life history (larvae, pupae and adult) given their obligation to their sessile host plants, and **Special Condition 5** similarly requires Cal-Am to conduct all construction activities that would occur within 30 feet of its habitat outside its flight period between June 1 and September 15 of any year.

Spoils from well drilling: Cal-Am expects to remove about 1,000 cubic yards of spoils during well drilling and its CDP application had initially proposed spreading the spoils evenly in an approximately two-inch thick layer throughout eight nearby acres of ESHA. However, Commission staff identified this activity as an avoidable impact and recommended that Cal-Am consider transporting the spoils offsite to an appropriate disposal location. Cal-Am's June 30, 2020 letter to Commission staff modified these spoils spreading approach and confirmed that Cal-Am would dispose of these spoils at the nearby Monterey Peninsula Landfill. This would represent a de minimus reduction in the Landfill's capacity, as Cal-Am has calculated the 1,000 cubic yards as being less than two one-thousandth of one percent of the Landfill's remaining capacity. This modification would require additional truck trips, though Cal-Am estimates no more than one trip every two to three days during the expected seven-month well construction period, for a total of between 70 and 105 total trips. With the proposed phasing of the Project, the initial impacts resulting from the volume of spoils and number of truck trips would be reduced by up to about 60-70%.

- **Maintaining or relocating well sites:** Cal-Am anticipates having to conduct maintenance at the well sites about every five years and that the area of disturbance – for access, staging, presence of construction equipment, etc. – would total about six acres for each event. This is the same area that would be significantly disturbed and characterized as a permanent impact during the initial construction phase. And even if the latter were not the case, although each maintenance event could be considered relatively short-term, the overall effect would be ongoing, re-disturbance of the area that would prevent adequate restoration and natural community successional processes from occurring between events, which would represent a greater than temporary adverse effect to these areas of habitat. The phased Project would result in reduced initial impacts due to the maintenance occurring at just two well pads rather that six for the undetermined period where Cal-Am would rely on just Phase 1 of its Project.

  At some point in the future, Cal-Am may need to relocate or rehabilitate its wells due to the effects of climate change or once the wells reach the end of their service life. This could result in additional adverse impacts to ESHA. As the nearby shoreline erodes inland, the beach and foredunes at the CEMEX site would also move inland

[40] The FEIR/FEIS provides that well construction should be conducted during non-breeding season unless otherwise allowed by the U.S. Fish and Wildlife Service. It presumes, though, that construction will occur during that season and includes a number of mitigation measures such as conducting nesting surveys, providing visual barriers between construction and any nests, etc.

and would be expected to maintain approximately the same profile as they now have. In response to a study done early during the CPUC's CEQA review that showed coastal erosion likely affecting the proposed well sites during their operating life, Cal-Am located them several hundred feet further inland than initially proposed. However, because that study was based on earlier versions of state guidance and science on sea level rise, Commission staff requested that Cal-Am provide an updated study using currently applicable guidance and projections. This more recent study, which Cal-Am provided in October 2019, showed that the well sites would likely be protected from the direct effects of coastal erosion over their proposed 25-year operating life, though it also showed that those well sites could be buried by the inland recession of the foredunes occurring in response to erosion and sea level rise. In recognition of these hazards, and as described in Section IV.H – Coastal Hazards, **Special Condition 6** limits the permit term to no more than 25 years and requires Cal-Am to seek authorization from the Commission to relocate, rehabilitate, or extend the permit term. Because Cal-Am's site is surrounded by ESHA, it is likely that moving the wells will result in additional impacts to ESHA. These impacts would be assessed and addressed if and when Cal-Am seeks authorization from the Commission to move the wells.

- **ESHA Impacts from Pipeline Construction:** As noted above, Cal-Am would construct a Source Water Pipeline from the well field to the desalination facility and a Desalination Water Pipeline from the desalination facility to its Transmission Main Pipeline to the south. Most of the pipelines would be installed using conventional open trench methods, which due to equipment access, sidecasting or stockpiling of soil, and other factors, would result in a larger area being affected than just the width of the pipeline trenches. These pipelines include components within and outside of the City of Marina and are described in more detail below:
- **Source Water Pipeline:** About 5,365 linear feet of this pipeline would be within the County's coastal zone, including sections along the easternmost portion of the CEMEX access road, and along Lapis Road, Del Monte Boulevard, and part of Charles Benson Road. Pipeline construction along the CEMEX access road and Lapis Road would be within areas of disturbed coastal dune habitat and has the potential to disturb several special-status species, including Monterey spineflower, branching beach aster, ocean bluff milkvetch, and coast buckwheat. The FEIR/FEIS identifies ESHA impacts of up to 11.8 acres during construction, though some of these overlap with areas within the City of Marina's LCP jurisdiction.

- **Desalination Water Pipeline:** About 7,207 linear feet of this pipeline would be within the County's coastal zone, including sections along Charles Benson Road, Del Monte Boulevard, and Lapis Road, where it would enter the City of Marina. The route traverses areas of disturbed coastal dunes, including areas of central dune scrub and coyote brush scrub as well as ruderal habitat and developed areas. The FEIR/FEIS notes that pipeline construction could adversely affect at least three special-status species observed along the route – Monterey spineflower, Kellog's

horkelia,[41] and coast buckwheat. The FEIR/FEIS identifies construction impacts of up to 16.9 acres of ESHA, though similar to the Source Water Pipeline above, some of this would occur within the City of Marina's LCP jurisdiction. The FEIR/FEIS also states that the Source Water and the Desalinated Water pipelines could potentially impact about 0.2 acres of this Smith's blue butterfly habitat, which it notes would be a significant adverse effect.

- **Transmission Main Pipeline:** Several thousand linear feet of this pipeline would be located within the coastal zone, including about 320 linear feet within the City of Seaside and 1,290 linear feet bordering the Fort Ord Dunes State Park in the Commission's retained jurisdiction. It would traverse areas of coastal dune that include stands of central dune scrub, coyote brush scrub, coast live oak woodland, and northern coastal scrub, including some areas previously identified by the Commission as ESHA. Within the City of Seaside, the habitat along the route includes relatively small and discontinuous areas of coyote brush scrub, silver dune lupine-mock heather scrub, and Monterey pine woodland, along with areas of landscape plantings and ruderal vegetation. Construction could adversely affect a number of special-status species observed along the route, including sandmat manzanita, the federally threatened Monterey spineflower, Menzies' wallflower, Kellogg's horkelia, Monterey Coast paintbrush, branching beach aster, south coast branching phacelia, Michael's rein orchid, and Monterey ceanothus.[42] The FEIR/FEIS identifies pipeline construction as resulting in up to about 5.4 acres of ESHA impacts (including some within the City of Marina).[43]

- **Castroville Pipeline:** A short segment of this pipeline would be located within the County's coastal zone. Most of the area traversed by the pipeline consists of agricultural land, non-native grassland, developed areas, and ruderal habitat, though it also includes areas of central dune habitat and coyote brush scrub. The FEIR/FEIS notes that construction could adversely affect Monterey spineflower and branch beach aster and could result in construction impacts to about 0.4 acres of ESHA.

As part of pipeline installation, Cal-Am would establish several construction staging areas identified in the FEIR/FEIS as covering a total of 6.6 acres, though Cal-Am's recent Project modifications have reduced that area to some degree. Most of these areas are paved and along active rights-of-ways but are adjacent to areas that have the

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[41] Kellog's horkelia (*Horkelia cuneata* var. *sericea*) has a California Native Plant Society Rare Plant Ranking of 1B.1, meaning that it is rare throughout its range and seriously threatened.

[42] Monterey Coast paintbrush (Castilleja latifolia ssp. latifolia) has a California Rare Plant Ranking (CRPR) of 4.3; south coast branching phacelia (Phacelia ramosissima var. austrolitoralis) ranks 3.2; Michael's rein orchid (Piperia michaelii) ranks 4.2; and Monterey ceanothus (Ceanothus rigidus) ranks 4.2. These species are currently either on the California Native Plant Society's Review or Watch Lists.

[43] The FEIR/FEIS also describes an optional alignment for this Transmission Main Pipeline that would affect up to 5.7 acres of ESHA.

potential to provide habitat for special-status species, though they have not yet been described as ESHA.

The actual area of direct and indirect impact would likely be less than described above. This impact estimate is reduced from the 2020 estimate. In October 2022, in response to questions by Commission staff, Cal-Am determined that it could reduce surface impacts to ESHA by up to about 8.6 acres by installing pipelines in some areas using tunneling techniques instead of trenching. Cal-Am estimates impacts that would qualify as long-term temporary (i.e., not be subject to ground disturbance, significant vegetation loss, and to be able to be restored within 12 months following construction) to be approximately 14.7 acres and those that would qualify as permanent (or require more than 12 months to recover to a pre-construction condition) to be 7.5 acres. The actual extent and nature of ESHA impacts would be determined through additional field surveys comparing conditions shortly before and following Project implementation.

Avoidance, Minimization and Mitigation of Impacts

The FEIR/FEIS includes a number of mitigation measures meant to avoid or reduce some of these known or potential impacts to ESHA (see **Exhibit 6**). They include several commonly required measures, such as requiring the presence of one or more qualified biologists to oversee implementation of protective measures, conducting environmental awareness training and education to construction personnel, conducting pre-construction surveys and ongoing monitoring, and numerous best management practices. They also include Mitigation Measure 4.6-1n that requires Cal-Am to submit, prior to construction, a comprehensive Habitat Mitigation and Monitoring Plan ("HMMP") that describes Cal-Am's proposed mitigation, including providing mitigation success criteria, implementation plans, maintenance, monitoring, and reporting plans, and contingency measures needed to address restoration and compensatory mitigation on all sensitive habitats and species affected by the Project. It also anticipates that Cal-Am would coordinate with several resource agencies (including staff of the Commission, California Department of Fish and Wildlife, Regional Water Quality Control Board, U.S. Army Corps of Engineers, and U.S. Fish and Wildlife Service) to determine the full suite of mitigation measures that would ultimately be needed.

The mitigation measures included in the FEIR/FEIS are critical in reducing the impacts associated with the Project. Thus, the Commission imposes **Special Condition 7**, which codifies the mitigation measures from the FEIR/FEIS and refines several details to ensure consistency with the Commission's practice. Pre-construction biological surveys, including buffer areas surrounding the Project work site, would help to ensure that any sensitive wildlife or plant species detected, is avoided where feasible, and salvaged or safely relocated where possible. The approved biologist(s) would also have the ability to delay construction in order to avoid immediate impacts and consult with the appropriate agencies (i.e., CDFW and/or USFWS) including the Executive Director. During construction, the biologist(s) would be responsible for inspecting work areas ahead of construction each day, documenting their observations, ensuring that any necessary buffers are observed and clearly delineated, salvaging and/or relocating sensitive species in accordance with pre-approved measures, stopping work if there is

imminent threat to a sensitive species or other need to consult with any agencies (e.g., USFWS or CDFW), and notifying the Executive Director of any consultation, impacts or injury to sensitive species, or development activities observed outside the scope of the permit. Refinements to the mitigation measures include broader consideration of western snowy plover nesting habitat use from prior years and wider buffers reflecting the species' highly sensitive nature,[44] guidance on the legless lizard survey methods that should be used, further specifications for nesting birds, including survey windows nearer the commencement of construction, standard and minimum buffers, and limits on noise at nest sites,[45] requirements to survey for American badgers in habitats beyond those originally specified in the FEIR/FEIS,[46] larger buffers for Monterey dusky-footed woodrat middens, which are considered ESHA,[47] and inclusion of the Executive Director in all natural resource agency consultations as well as provision of all survey results and supporting documentation.

To address the additional need for habitat mitigation, Cal-Am submitted a Habitat Mitigation and Monitoring Plan ("HMMP") in June 2020 that relied heavily on anticipated opportunities to restore portions of the CEMEX site and provided three options by which to implement such restoration, including direct restoration, funded restoration, and the contribution of funds towards CEMEX parcel acquisition following the terms of the CEMEX settlement agreement. However, several concerns have arisen that will require Cal-Am to also consider mitigation options outside the CEMEX site. These concerns include the net loss of dune habitat that would occur, the concentration of mitigation effort in one area while Project impacts would be distributed throughout a much broader region, and ongoing negotiations concerning the CEMEX Settlement Agreement. More specifically, the full scope of final implementation of the Cemex Settlement Agreement and resolution of the underlying violation is undetermined at this point in time. Thus, it is unclear what, if any, mitigation opportunities will remain at the CEMEX site once the

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[44] For highly sensitive bird species, such as western snowy plovers, a 500-foot buffer (rather than the proposed 300-foot buffer) is recommended during their nesting period.

[45] Consistent with prior Commission approvals, noise levels would be maintained below 65 dBA or less at nest sites, which is approximately equivalent to that of a busy restaurant. Above these levels, noise can interfere with conspecific communications such as that between parent and chick or alert calls signaling the presence of other imminent threats; elevate stress hormone levels that compromise overall animal physiology; scare or startle animals, leading to nest evacuation or even abandonment, rending unfledged young vulnerable to predation or harsh environmental conditions (e.g., extreme cold or heat); and so forth.

[46] In the FEIR/FEIS, American badger habitat was identified as agricultural and grazing lands, and non-native grasslands; however, Cal-Am's 2019 surveys from across the Project site have since identified badger burrows within the pipeline corridor at multiple points, including within various types of dune scrub habitats.

[47] Dusky-footed woodrat middens are generally recognized as ESHA under the 'especially valuable habitat' portion of the definition because these are typically large, complex structures that support multiple generations of the species, persisting in some cases for as much as decades. The proposed mitigation measures in the FEIR/FEIS would limit buffers to 50 feet; however, the Commission generally applies the 100-foot buffer used for most ESHA.

Agreement is fully implemented. To address these concerns, Cal-Am has worked in recent months to identify potential alternative mitigation options and while none have yet formally come together, several appear to be feasible or are even making significant progress towards partially resolving anticipated mitigation requirements. The options span dune ecosystems within the coastal zone, between the northern border of the CEMEX site and the southern border of Sand City and include potential private land acquisitions as well as restoration on publicly owned lands. Importantly, after investigating and reviewing alternative mitigation options, Commission staff is confident that that there is sufficient acreage available in the appropriate geography and within appropriate ecosystems to accommodate anticipated mitigation requirements for this Project with or without use of the CEMEX site.

In order to validate estimates of habitat impacted by the Project, **Special Condition 8** requires Cal-Am to conduct pre-construction surveys to document the condition of ESHA during the preceding late spring to early summer period (when most species are in bloom and most readily identifiable) including the physical extent and acreage of all habitats within proposed impact areas as well as metrics such as native species diversity, native species cover, invasive species cover, and vegetation community age class and/or size structure distributions, and photos, to compare against conditions following conclusion of construction. Existing records and documentation would be considered in conjunction with the new data, enabling a more comprehensive analysis for less apparent seedbanks and rare species occurrences. The timing of the pre-construction surveys would also allow for the detection of any recovery or other differences due to the termination of CEMEX operations and progress in reclamation activities, as the ecosystem may present differently. The post-construction surveys would reevaluate all of the same variables and additionally document dates of initial disturbance and disturbance cessation, and areas of significant ground disturbance (e.g., trenching), vegetation mortality and cover losses due to pruning, trampling, heavy equipment use, etc. to aid in the determination of impact nature, whether qualifying as temporary or permanent. For areas anticipated to be classified as temporarily impacted, another survey would be required prior to the conclusion of the allowed recovery period (e.g., within 12 months of initial disturbance for short-term and within 12 months of disturbance conclusion for long-term) to verify that the habitat has in fact recovered and if and where it has not, impacts would be reclassified as permanent. Invasive species would also be treated in all temporarily impacted ESHA in order to facilitate recovery.

Special Condition 8 also establishes base mitigation ratios for the various impact characterizations, providing for 1:1 where impacts would be considered of short-term temporary nature, a minimum 1.5:1 where they would be considered long-term temporary to account for the additional temporal loss of ecological functions, and a minimum 3:1 where impacts would be considered permanent. These minimum base ratios assume that compensation would take the form of habitat creation or substantial restoration but allow for the alternative strategies of enhancement and preservation to be used at double or triple the base ratios, respectively (e.g., for an acre of permanent impacts, three acres could be substantially restored, six acres could be enhanced, or nine acres could be preserved). Thus, there is a framework that recognizes the range of

mitigation options that may be ultimately secured while ensuring that there would be meaningful compensation for the Project's impacts; similar strategies have been used in other recent Commission decisions.[48] Additionally, in this case, because there would be a net loss of 1.9 acres of dune habitat to the permanent Project features such as the well pads and service roads, Cal-Am would be required to ensure a minimum 1:1 of the permanent impact mitigation requirement for that portion take the form of habitat creation. This could be achieved through the removal of existing unprotected dune habitat from future development opportunities and the restoration of essential dune processes (e.g., beach-dune connectivity). Outside of the TAMC right-of-way corridor, all mitigation for permanent impacts, and the added 0.5:1 fraction for long-term temporary impacts would be required to occur within areas that are or would be protected in perpetuity, and as consistent with **Special Condition 9**. For temporary impact mitigation, habitat would be addressed in-place and in-kind. Although some of these areas within the TAMC right-of-way corridor could remain susceptible to future development efforts, mitigation located in these areas could be assessed as part of future CDPs in those areas.

Although Cal-Am has previously submitted a HMMP, it was developed with a specific focus on the CEMEX parcel. Since this determination and in response to staff requests for alternative mitigation site options and more extensive mapping, Cal-Am has submitted assorted materials intended to update the existing HMMP. However, because the nature of modifications that would be necessary is extensive, both due to the changes in mitigation site availability and inadequate details such as success criteria, and that the inherent complexity of both past and expected plans is substantial, **Special Condition 10** would require Cal-Am to submit a new HMMP prior to permit issuance. It is expected that Cal-Am may be able to reuse still-relevant portions from the prior plan, but must also include more detailed information on mitigation goals, restoration objectives, and site specific conditions; reference conditions with supporting rationale; plan sets; invasive species control; success criteria and performance assessment methods; sampling designs and monitoring schedules; as-built, interim, and final reporting; provisions for possible further action, should any part of the mitigation effort fail to succeed; and, maintenance of responsibility even when working through partnerships. In addition, the HMMP would require provisions for the long-term monitoring of the mitigation site(s) and complete restoration of the developed footprint supporting infrastructure when the wells and any associated development comes to the end of its operational life.

With alternative mitigation options still being pursued but not finalized, **Special Condition 10** importantly provides for three options by which compensatory mitigation for habitat impacts could be implemented. In all cases, the options would be limited to Project-associated habitats (i.e., primarily foredunes and dune scrubs, but also maritime chaparral, etc.) in the coastal zone between the southern boundary of the Salinas River and the northern boundary of the City of Monterey, and west of Highway 1. This spatial

[48]For example, CA Department of Transportation (CDP 2-20-0282) at Gleason Beach, Sonoma County, and Federal Highway Administration (CD-0001-21) at Santa Cruz County.

focus ensures that comparable ecosystems under the Commission's jurisdiction would benefit directly from mitigation efforts. **Special Condition 10** also ensures that any and all lands used for mitigation, apart from where temporary impacts would be mitigated in-place and in-kind within the TAMC corridor, would be protected in perpetuity.

The first mitigation option under **Special Condition 10** would allow for Cal-Am to protect and potentially improve currently unprotected lands, effectively removing them from future development threats and providing for more habitat than might otherwise exist. This approach would be required, at a minimum and as part of a significant contribution to restoring coastal dune processes, as creation of dune habitat to ensure no net loss due to the Project's permanent footprint, presently estimated as 1.9 acres. For example, the protection of remaining gaps among otherwise conserved areas might enable broader restoration efforts, or the removal of legacy materials such as roadbeds or revetments could restore beach-dune connectivity where those processes have been lost. Beyond the minimum requirement to compensate for no net loss of dune habitat, additional acreage could be moved into protection and would be eligible for preservation credit if unimproved; if improvements would be proposed in addition to new protections, the mitigation may alternatively qualify the lands for enhancement or restoration credit, based on standards typically applied for these thresholds.[49]

Special Condition 10 also allows for a second mitigation option where lands already protected from development could be improved, either through enhancement or substantial restoration efforts, and whether implemented by Cal-Am, the landowner, or an agreed-upon third party. This option would necessarily occur in coordination with the landowner, allow for landowner specification of available acreage and terms of agreement with Cal-Am, and ensure landowner involvement in all discussions concerning site restoration priorities, goals and objectives, methods, maintenance, etc. Land already obligated to existing regulatory or legal requirements would generally be considered unavailable as compensation for Cal-Am's Project and the Executive Director would review and approve any tentative agreement between Cal-Am and a landowner prior to its execution, to ensure that all terms would be consistent with the requirements of this and other special conditions. If Cal-Am decides to pursue mitigation at the CEMEX site under this option, it would also need to demonstrate that proposed restoration work goes above and beyond what is expected from the Settlement Agreement.

A third mitigation option under **Special Condition 10** would assess an in-lieu fee of $250,000 per acre of required restoration with an annual adjustment per consumer price index beginning one year after Commission approval and continuing until all fees are paid. The in-lieu fee amount of $250,000 per acre of required restoration is based upon a range of examples from other permits, practices, and published literature. For example, elsewhere in Monterey County, in the Asilomar Dunes of Pacific Grove, an in-

[49] For example, see the Ecology staff technical memo provided as Exhibit 24 in the staff report for California Department of Transportation (CDP 2-20-0282) at Gleason Beach, Sonoma County.

lieu fee program has been used for dune habitat and most recently, in 2018 (Smith CDP 3-18-0286), applied a fee of $2 per square foot. This is approximately equal to $87,000 per acre, and if that amount is then adjusted for consumer price index would be approximately $102,000 per acre today. Another example from a small project in San Mateo County (Caltrans 2-22-0192-W) included a proposal with budget that, if simply scaled-up, would create and restore dunes at a cost of approximately $740,000 per acre. Published literature for large complex projects involving dunes in California suggests a starting point of $1,000,000 per acre.[50] Conversations with experienced dune restoration practitioners in southern California have indicated that a relatively simple project can readily cost somewhere between $100,000-$250,000 per acre and that up to $1,000,000 per acre is reasonable for complex or significantly degraded sites requiring significant engineering effort for components such as grading topography or removing contaminated materials. Because the existing restoration opportunities in the region are as variable as these examples, a fee assessment of $250,000 per acre is considered reasonable and could likely afford significant improvements to local dune ecosystems.

Fees would be deposited into an interest-bearing account established and managed by a government or non-governmental organization as approved by the Executive Director, with the sole purpose of financing dune habitat protection, restoration, and related activities in the southern Monterey Bay region. Should such an account not already exist, Cal-Am would be responsible for facilitating its development and initiation and covering the costs associated with administering the fees. The in-lieu fee option may be elected by Cal-Am for any fraction of mitigation acreage due except the required habitat creation to assure no net loss. The in-lieu fee option should be viewed as the last resort mitigation option and should be selected by Cal-Am only if neither of the other two options is feasible. If, at no less than 90 days prior to anticipated permit issuance, Cal-Am has failed to secure sufficient acreage to mitigate for Project impacts to habitat, the prescribed fee will be assessed for any outstanding acreage and evidence of all fees having been paid into an approved account would be required prior to permit issuance. The mitigation measures and Special Conditions described above will ensure that impacts to ESHA are avoided, minimized, and mitigated to the maximum extent feasible. Nonetheless, the Project remains inconsistent with Coastal Act and LCP provisions requiring that development in ESHA be dependent on the habitat resources within the ESHA, as neither the well field nor pipeline components are dependent on those resources. Therefore, the Project may only be approved if it meets the requirements of Coastal Act Section 30260, as discussed below in Section P (Coastal-Dependent Industrial Facility Override).

Additional Project impacts

Another aspect of the Project is the required modification of the existing outfall the Project would use to discharge its effluent into Monterey Bay. These modifications would include replacement of some clamps on the existing outfall line, which is

[50] PG King. C Nelsen, JE Dugan, DM Hubbard, KL Martin, RT Battalio. 2018. Valuing beach ecosystems in an age of retreat. Shore and Beach 86(4): 45-59.

necessary to protect from corrosion. The clamp replacement is included as a mitigation measure required by the FEIR/FEIS and must occur before Cal-Am begins its facility operations. This work is proposed to occur during the treatment facility's low flow period in the summer, when most of its discharge is treated and used for agricultural irrigation. However, this would coincide with the Western snowy plover breeding and nesting season and would occur within the plover's critical habitat area on the beach. As described in the FEIR/FEIS, the installation work would likely require heavy equipment on the beach and foredune area, excavation of some amount of beach and dune habitat, installation of temporary fencing to protect the work area, and other activities that would result in temporary noise, disturbance, and occupancy of this critical habitat area for a six- to eight-week period during a critical time period for the species. The activities could disturb approximately a half-acre between the dunes and the beach. The FEIR/FEIS concluded that although activities associated with the clamp replacement could temporarily impact ESHA, impacts would be mitigated to a less than significant level through the implementation of mitigation measures identified in the FEIR/FEIS. However, such activities in dune habitat would be considered permanent due to their ground-disturbing nature and would not conform to Coastal Act Section 30240 (if the work is done in the Commission's retained jurisdiction) or LCP provisions that mirror that Section (for any work in the City's permitting jurisdiction) because it would be non-resource-dependent activity occurring in ESHA. For portions that would occur on the beach, Coastal Act Section 30230 would instead apply, requiring the protection of biological productivity and species of special biological significance, such as the plover.

A Project component that is not part of Cal-Am's current CDP application is the liner that must be installed within the existing ocean outfall pipeline to prevent the desalination facility discharge from corroding the outfall line (see description in Section III.I). The liner is included as one of the mitigation measures required by the FEIR/FEIS and must be installed before Cal-Am begins its facility operations.[51] Pursuant to an agreement between Cal-Am and M1W, the operator of the wastewater treatment plant, the liner is to be installed by M1W; however, neither entity has committed to a final design or applied for the needed permits for this work. As described above, this proposed work is not authorized under this permit although the impacts are considered to provide a comprehensive review of the Project. This outfall work will require a subsequent amendment of a CDP the Commission issued to M1W.

The preliminary analysis provided in the FEIR/FEIS anticipates that part of the liner installation would be done from the beach (and at or near the boundary between the City of Marina's LCP jurisdiction and the Commission's retained jurisdiction) and within areas of ESHA further inland within the CEMEX site and the City's LCP jurisdiction. Draft information provided by Cal-Am shows that work inland of the beach could require digging access pits at two sites along the outfall route within the City of Marina that

[51] The FEIR/FEIS imposed Mitigation Measure 4.13-5b requiring Cal-Am to install the liner to protect the outfall from corrosion. It required Cal-Am to include the proposed liner in its CDP application, described some of the potential impacts that might occur during installation, and noted that the work would be subject to other mitigation measures meant to reduce impacts to terrestrial biological resources.

consist of ESHA. As with the clamp replacement, work is proposed to occur during the treatment facility's low flow period in the summer, when most of its discharge is treated and used for agricultural irrigation. The excavation pit at each access point would be located directly above the outfall pipe and would not exceed a size of 12 feet by 25 feet. Soils would be stockpiled within the existing outfall right-of-way, which also constitutes ESHA, and topsoil would be stored in a separate pile for use in restoration following installation. This work, including access routes for heavy equipment to reach these sites, could result in direct adverse effects to up to about five acres of dune-associated ESHA. Because the work would again need to occur during low-flow times for the wastewater plant, this too would need to happen in late summer, during Western snowy plover breeding and nesting, and potentially within the plover's critical habitat area on the beach. The installation work would likely require heavy equipment on the beach and foredune area, excavation of some amount of beach and dune habitat, installation of temporary fencing to protect the work area, and other activities that would result in noise, disturbance, and occupancy of this critical habitat area during a critical time period for the species. Similar to ESHA impacts described above, the FEIR/FEIS concluded that implementation of CEQA-required mitigation measures would avoid or reduce potential impacts associated with the installation of the outfall liner, though they would also be subject to the avoidance, minimization, and compensatory mitigation measures similar to those imposed through the Special Conditions of this CDP. Nonetheless, these activities would not conform to Coastal Act Section 30240 or LCP provisions that mirror that Section for the dune portion because they would be non-resource-dependent activity that would occur in ESHA. And again, for portions that would occur on the beach, Coastal Act Section 30230 would apply.

Conclusion for Appeal
Based on the discussion above, the Commission finds that the Project, as proposed, does not conform to provisions of Habitat Protection policies in the City's LCLUP, including LCLUP Policies 25, 26, and 41 and those requiring that only uses dependent on habitat resources be allowed within primary habitat areas.

Conclusion for Consolidated CDP
Based on the discussion above, the Commission finds that the Project, as proposed, does not conform to the Coastal Act's ESHA policies.

However, because the Project is considered a coastal-dependent industrial facility, the Commission has the discretion to apply the three tests of Coastal Act Section 30260 and approve the Project notwithstanding its inconsistencies with Coastal Act and LCP provisions (see Section IV.P).

F. PROTECTION OF GROUNDWATER RESOURCES

Coastal Act Section 30231 states, in relevant part:

> 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** … [emphasis added]

Background and Analysis

The groundwater aquifer system in this region is complex and includes several "stacked" aquifers – e.g., the Dune Sands Aquifer, the 180-Foot Aquifer, and the 400-Foot Aquifer – that are partially connected and are experiencing various degrees of seawater intrusion. Studies done as part of the CEQA review for the Project as well as subsequent modeling studies undertaken by Cal-Am concluded that the proposed Project's well field would have relatively limited effects on nearby groundwater resources. However, other entities point to other studies to identify greater potential for adverse impacts to nearby groundwater resources. In particular, they maintain that other modeling shows an increased likelihood that Cal-Am would extract a higher than anticipated percentage of "non-seawater" (i.e., water that includes some proportion of fresh or brackish water from the inland aquifer systems) and would therefore be required to return more water to the basin than previously anticipated in the Project's Return Water Agreement.[52] This outcome could substantially increase the costs to Cal-Am's ratepayers (as described in Section IV.I – Environmental Justice and Section IV.O – Assessment of Alternatives. In addition, some commenters have expressed concern that the Project would adversely affect the water supply wells of the Marina Coast Water District, which are located about two miles from the Project's proposed well field. Neither the CPUC in certifying the FEIR/FEIS nor the Commission's independent hydrogeologist (as part of Commission's review in 2020) found evidence concluding that such impacts would occur; however, the Commission's independent hydrologist recommended additional studies to more fully characterize the Project's likely effects on groundwater. Additionally, a pending lawsuit filed in 2020 by the City of Marina) is challenging Cal-Am's ability to withdraw more than 500 acre-feet per year of

[52] As noted in the Project Description, a Return Water Agreement between Cal-Am and the Monterey County Water Resources Agency, which was approved by the CPUC , provides that Cal-Am would have to monitor the water extracted from its wells, determine the proportion that is not fully seawater (by calculating the salinity of its extracted water as compared to that of seawater), and then return that volume to the Basin at substantially reduced prices, in the form of potable water to be supplied to the Castroville Community Services District. See CPUC Final Decision 18-09-17, Appendix H – Return Water Settlement. The Return Water Agreement is not related to CEQA environmental impacts, however. As noted by the CPUC, the FEIR/FEIS concluded that "with or without any return water component, the project's groundwater resources impact would be less than significant." *In the Matter of the Application of California American Water Company for Approval of the Monterey Peninsula Water Supply Project, etc.*, CPUC No. A-12-04-019, at p. 115 (Order Denying Rehearing of Decision, dated Feb. 5, 2019) (citing FEIR/FEIS at pp. 4.4-66, 4.4- 67, 4.4-71 and 4.4-72).

groundwater from the proposed well field location.[53] In that lawsuit, the trial court referred a series of issues to the State Water Board's Administrative Hearing Office for determination pursuant to Cal. Water Code § 2000.[54] After the Administrative Hearing Office's referee issues a proposed report and provides it to the State Water Board for consideration, the State Water Board will issue its final report and the SWRCB will send the report to the trial court to guide an adjudication of the case.[55] There is a trial date of October 23, 2023 in the litigation, so a trial court decision is not expected until late 2023 at the earliest.

Although the Project's potential impacts to area groundwater have been extensively analyzed in connection with the CEQA review relating to the Project, operation of the slant test well at the former CEMEX site, by the Commission's independent hydrology expert, and other analyses; however, some degree of uncertainty remains. Therefore, staff believes it is appropriate to require several Special Conditions to require additional protections. As described below, the Special Conditions are necessary to ensure that Cal-Am can withdraw its proposed volumes of groundwater from this site, that it can operate its wells in a manner that avoids harm to aquifers that are a source of drinking water for the City of Marina and MCWD, and that it provides adequate monitoring and reporting to identify potential impacts to other nearby groundwater users before they occur.

The CPUC's CEQA review of the proposed Project included extensive groundwater modeling and monitoring data from a number of monitoring wells, including monitoring wells that Cal-Am installed as part of a test slant well. In 2014, the Commission approved Cal-Am's CDP for installation of a test slant well at the former CEMEX site and included a special condition requiring Cal-Am to install monitoring devices in at least four wells nearby on the CEMEX site and at least one offsite well. This monitoring was meant to provide baseline water data and Total Dissolved Solids levels in those wells before the start of pumping from the test well and to help identify potential impacts through monitoring during test well operations.[56]

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[53] *City of Marina, et al. v. RMC Lonestar, et al.*, Monterey County Superior Court No. 20CV001387 (complaint filed May 11, 2020).

[54] Under this provision, a court may refer to the SCRWB any or all issues in a lawsuit involving water rights to obtain SCRWB's determination; however, SCRWB's determination is not binding on the court.

[55] The SWRCB's determination is not binding on the trial court. Under Water Code section 2019, "[t]he report filed by the board is prima facie evidence of the physical facts therein found; but the court shall hear such evidence as may be offered by any party to rebut the report or the prima facie evidence."

[56] In litigation challenging the Commission's approval, the Court found that the Commission had not abused its discretion in relying on monitoring wells to evaluate the test well's potential impacts to groundwater supplies and water quality. *Marina Coast Water District v. Coastal Commission*, No. H042742, 2016 WL 6267909 (Cal. Ct. App. Oct. 26, 2016).

The CPUC's CEQA review included establishment of a Hydrologic Working Group ("HWG") to help develop these monitoring and modeling methods and to assess the resulting studies.[57] Those studies and pump tests at the test well identified a relatively limited "zone of influence" around Cal-Am's proposed well field, and the CEQA review concluded that Cal- Am's proposed extraction of groundwater from the 180-Foot Aquifer in this area would have less than significant effects with regards to groundwater depletion or recharge. These findings and conclusions were incorporated into the CPUC's FEIR/FEIS, which was published in 2018. The CPUC subsequently certified the FEIR/FEIS and authorized a Certificate of Public Convenience and Necessity for the MPWSP in 2018.[58]

In the CEQA review and the CPUC proceeding to certify the FEIR/FEIS, other interested parties presented additional studies and analyses which raised competing views about the type and extent of the likely effects that Cal-Am's intake wells would have on area groundwater supplies. Key areas of concern or disagreement included whether the data used in Cal-Am's modeling and monitoring studies were adequate to characterize conditions of the affected aquifers and the likely or potential effects of Cal-Am's water extractions from those aquifers, whether Cal-Am's proposed extractions would induce seawater intrusion or would remove greater volumes of "non-seawater" than predicted, or whether the Project's pumping would adversely affect any water in those aquifers that may be suitable to treat as fresh water or drinking water. In particular, the City of Marina and the Marina Coast Water District concluded that Cal-Am's proposed use of groundwater from this area would have substantially greater adverse effects than had been identified during the CEQA review and the CPUC proceeding to certify the FEIR/FEIS, including adverse effects on the groundwater the City and Water District rely upon for drinking water supplies.

Data adequacy: Some of the main reasons for disagreement among the studies were their use of different baseline standards, data collection methods, and modeling approaches. For example, Cal-Am's studies were focused in part on determining how much "non-seawater" Cal-Am's wells would extract – that is, what proportion of the water withdrawn through Cal-Am's wells would not be fully seawater but would include brackish or fresh water that could be useful or treatable groundwater within the Salinas Valley Groundwater Basin. As noted above, the Basin has a prohibition of exporting such water outside the Basin boundaries, and pursuant to the CPUC-approved Return Water Agreement, Cal-Am would return any such portion that is not considered seawater. Some of the criteria Cal-Am used were different than those used in other studies – for example, the concentrations of Total Dissolved Solids ("TDS") used to

[57] See documentation provided on Cal-Am's MPWSP website at https://www.watersupplyproject.org/test-well (accessed September 1, 2022). The HWG is comprised of two hydrogeologists working on behalf of Cal-Am and one each working for the Salinas Valley Water Coalition and the Monterey County Farm Bureau.

[58] CPUC No. A-12-04-019, Decision dated September 13, 2018, as modified and affirmed Feb. 5, 2019).

identify fresh water, brackish water, and seawater.[59] Some studies were based on entirely different data collection methods than those used by Cal-Am – for example, the City used an Airborne Electromagnetic ("AEM") survey to augment its hydrogeological data and modeling.[60] In addition, the City argued that a study published in 2018 ("AEM Study"), which used the AEM modeling, indicated that Cal-Am's wells would extract substantially greater volumes of "non-seawater" than had been projected.[61] A preliminary version of the AEM Study was submitted by MCWD following the close of the public comment period on the Draft EIR, and the final AEM Study was submitted after publication of the FEIR/FEIS. The FEIR/FEIS addressed the AEM Study in detail and concluded that its results were consistent with hydrogeologic data reviewed in the CEQA process: "The results showed a distribution of groundwater chemistry that is consistent with the findings of the HWG hydrogeologic investigation and generally consistent with the salinity mapping for the 180-Foot and 400-Foot Aquifers published by the MCWRA. The Stanford study also provides data to help interpolate between control points provided by the MPWSP monitoring network and confirms the work completed for the hydrogeologic investigation regarding the distribution of water quality in the MPWSP study area."[62] In the prior CPUC proceeding to certify the FEIR/FEIS, the City of Marina and MCWD filed a motion for a rehearing, arguing that that the FEIR/FEIS erred because it did not alter its characterization of the environmental baseline in light of the data in the AEM Study. In 2019, the CPUC denied the rehearing request.[63] Since then, the City of Marina has argued in the pending lawsuit against Cal-Am (for which there is a State Water Board reference proceeding underway) that a more recent 2020 AEM study published by the same authors as the 2018 study

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[59] Cal-Am's modeling efforts characterized "fresh" water as having TDS concentrations lower than 500 milligrams per liter ("mg/l"), which is based on California's recommended drinking water objective of no greater than 500 mg/L (per California Code of Regulations, title 22, division 4, chapter 15, article 16, section 64449, Table 64449-B (Consumer Acceptance Contaminant Level Ranges). Others were based on "fresh" water having TDS concentrations of less than 3,000 mg/l, which is based on the State Water Board's Resolution 88-63 – Sources of Drinking Water that identifies groundwater at those concentrations as suitable for drinking water, if treated.

[60] AEM is a relatively new technique for determining various characteristics of groundwater and aquifers. Its approach is one of geophysics rather than hydrogeology, and therefore involves an entirely different approach than that used in previous Cal-Am monitoring and modeling work. As a result, it is difficult to compare the two.

[61] Knight, R. et al., *Interpretation of Hydrostratigraphy and Water Quality from AEM Data Collected in the Northern Salinas Valley, CA*, Geo Frameworks, Marina Coast Water District (March 2018).

[62] FEIR/FEIS, p. 4.4-36.

[63] CPUC No. A-12-04-019, at p. 115 (Order Denying Rehearing of Decision, dated Feb. 5, 2019). After the CPUC denied the re-hearing request, the City of Marina and MCWD filed a direct petition for a writ of review to the California Supreme Court, which did not grant review.

demonstrates that the desalination facility would adversely affect the aquifers that are a source of drinking water for the City of Marina and MCWD.[64]

Additionally, two recently published peer-reviewed papers contend that some of the modeling Cal-Am conducted provided results that could almost only have occurred due to errors or mis-application of the collected data.[65] Arguments regarding data corruption were previously presented several times to the CPUC, which rejected those arguments.[66] A party to the prior CPUC proceeding to certify the FEIR/FEIS (Water Plus) has renewed those arguments in an August 2022 petition to the CPUC to modify the CPUC's decision, and that petition is currently pending.

Some of these issues and areas of disagreement cannot be fully resolved without additional data collection and monitoring, and some will not be determined unless and until Cal-Am actually conducts pumping. Cal-Am does not need a permit or water right for its withdrawal of seawater. However, Cal-Am would need to obtain appropriative rights for its extraction of the "non-seawater" portion of the water it extracts. To obtain those rights, it would have to establish that its use of that water was not harming other existing lawful water users in the Basin.[67]

To reduce some of the existing uncertainties to determine whether the proposed Project would conform to the groundwater protection provision of Coastal Act Section 30231, Commission staff, as part of its prior review of the Project, contracted with an independent licensed hydrogeologist to review some of these studies and conclusions, to conduct additional analyses, and to reach independent conclusions about these issues. The initial review, prepared in November 2019,[68] concluded that there were several substantial remaining uncertainties about how Cal-Am's extraction of groundwater may affect the groundwater basin and the amount of potentially usable

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[64] Knight R., et al., Gottschalk et al., Using an Airborne Electromagnetic Method to Map Saltwater Intrusion in the Northern Salinas Valley, CA, 85 GEOPHYSICS B119-131 (July 2020).

[65] See Weitzman, R.A., Tuning a Model in Climatology and Calibrating One in Hydrogeology: An Informative Comparison, in American Journal of Theoretical and Applied Statistics, May 12, 2022, and Weitzman, R.A., From Divining Rods to Statistics: A Forensic Analysis of the Misuse of Statistics in the Estimation of Environmental Impact, in Chance, pages 18-20, November 17, 2021.

[66] See. e.g., CPUC No. D.18-09-017, Application of California-American Water Company for Approval of the Monterey Peninsula Water Supply Project and Authorization to Recover All Present and Future Costs in Rates, dated September 13, 2018 ("D.18-09-017"), Appendix J, CPUC Memorandum Re: Responses to Comments Received After Publication of MPWSP Final EIR/EIS, p. 2 ("Water Plus has provided no direct evidence to support the data tampering accusation. Rather, the evidence in the record (including but not limited to Final EIR/EIS Master Response 12: The North Marina Groundwater Model (v. 2016), and FEIR/FEIS Section 8.6.20) indicates that the data tampering accusations are false…").

[67] See FEIR/FEIS, Chapter 2 – Water Demand, Supplies, and Water Rights; see also SWRCB Letter to CPUC, dated July 13, 2013.

[68] See Weiss Associates, Independent Hydrogeological Review of Recent Data and Studies Related to California American Water's Proposed Monterey Regional Water Supply Project, November 1, 2019.

groundwater within the area. That review concluded that the prior HWG modeling did not adequately characterize some aspects of the underlying aquifers and some of Cal-Am's potential effects on those aquifers. It also concluded that although Cal-Am's proposed groundwater extraction would likely have limited to negligible effects on the rate of seawater intrusion in the area, it appeared that Cal-Am's wells could extract greater volumes of non-seawater than had been previously identified, which would increase the amount of water Cal-Am would need to return to the Basin pursuant to the Return Water Agreement. It also recommended that additional data collection and modeling were needed to further reduce the degree of uncertainty about expected impacts, although it also suggested that some of that uncertainty and potential impacts could be reduced by ensuring that the screened sections of Cal-Am's wells extended further seaward so they could extract a greater percentage of seawater from beneath Monterey Bay.

After the Commission's November 2019 hearing, Cal-Am agreed to fund some of these additional recommended analyses to allow for further reduction in uncertainties about the proposed Project's effects on groundwater and to better determine the amount of "non-seawater" likely to be extracted by Cal-Am's wells. Results of this review included the following conclusions:[69]

- The additional modeling suggests the amount of recharge into the aquifers – from precipitation, irrigation water percolating downward, etc. – would affect the percentage of seawater extracted by the wells. The previous modeling did not include this recharge component and showed that the wells would initially pump about 85-90% seawater and that the percentage would increase to about 96-99% after the first three years of operation. This updated modeling shows that the amount of seawater withdrawn would not reach that expected steady state of 96-99%, but rather would vary based on whether it was a wet or dry season, how much irrigation occurred, and other factors. As described below, this aquifer characteristic is likely to result in Cal-Am needing to return more water to the Salinas Valley Groundwater Basin during wet years, pursuant to the Return Water Agreement.
- This most recent modeling also concluded that the amount of seawater extracted would vary due to the direction and slope of the groundwater gradient; that is, an aquifer gradient from the shoreline to inland areas, which is currently the most common condition, would result in extraction of a higher percentage of seawater, while a flat gradient or shoreward gradient would result in extraction of a higher percentage of non-seawater. This latter condition could be developed through the upcoming implementation of the Salinas Valley Groundwater Management Plan; however, even with a flat or shoreward gradient, the modeling showed that it could take several decades to increase the percentage of non-seawater, due to the large volumes of seawater that have already intruded to inland areas of the aquifer system.

[69] See Independent Evaluation, Modification, and Use of the North Marina Groundwater Model to Estimate Potential Aquifer Impacts, July 2020, which was provided as Exhibit 12 of Commission staff's September 2020 staff report on Cal-Am's proposed project.

- The modeling determined that the "capture area" from which Cal-Am's wells could capture non-seawater from the upper Dune Sand Aquifer could cover up to about 2.5 square miles.
- The recent modeling also identified areas of expected groundwater drawdown beneath several nearby wetland and vernal pond areas. This is described further in Section IV.G of these Findings.

This second review also recommended that additional modeling be done to further evaluate and describe potential groundwater impacts. For example, some of these conclusions are derived from use of a "steady state" model rather than a "transient" model that incorporates more dynamic modeling aspects, such as relatively short-term aquifer changes that result from seasonal changes in rainfall or irrigation and can better account for the amount of groundwater storage in the aquifers. The review also includes several specific recommendations on various components of that transient model to help adequately capture some of the expected reduction in uncertainty.

In July 2020, the above-referenced Hydrogeologic Working Group (HWG) submitted a critique of this most recent review.[70] Although this critique identified several concerns related to this recent modeling, it concurred that the Commission's independent reviewer reached a reasonable conclusion that the amount of seawater in the water withdrawn from Cal-Am's well field would range from about 88 to 99% and would vary in response to precipitation, agricultural pumping rates further inland, and other considerations. In July 2022, Cal-Am provided an updated analysis by the HWG that described results of the HWG's implementation of the scope of work that Weiss had previously proposed in the June 2020 review. This more detailed evaluation included additional modeling with several changed parameters as suggested by Weiss and determined that the range of non-seawater extracted under some conditions could be substantially greater – up to about 20%. As noted above, the modeling done during Cal-Am's CEQA review concluded that Cal-Am's water withdrawal would reach a steady state of 96-99%. Pursuant to the above-referenced Return Water Agreement, this would result in Cal-Am needing to return no more than about 700 acre-feet of water per year to the Salinas Valley Groundwater Basin. The updated modeling, however, shows that during years with higher precipitation rates, lower inland pumping rates, or other reasonably foreseeable conditions, Cal-Am could be required to return substantially more water to the Basin.

From a perspective of protecting groundwater resources, the CPUC's requirement that Cal-Am return any non-seawater to the Basin as specified in the Return Water Agreement is meant to ensure that the Project does not conflict with the Basin's prohibition against groundwater being exported from the Basin. In addition, if any party was harmed by Cal-Am's pumping of larger than expected quantities of non-seawater, they could challenge Cal-Am's ability to obtain appropriative rights to that groundwater. This increased return water requirement could also affect Project feasibility and cost, as described in Section IV.I – Environmental Justice and Section IV.O – Assessment of

[70] Hydrogeologic Working Group Comments on Weiss Report, July 10, 2020.

Alternatives. Essentially, because any higher return water volumes could result in additional costs to Cal-Am that it might seek to cover through additional cost recovery requests to the CPUC, the increased need to return water could substantially increase the costs to members of disadvantaged communities and to all Cal-Am ratepayers. However, Cal-Am is prohibited from passing such additional costs onto ratepayers unless the CPUC were to modify its decision approving the Project.

To address concerns related to Coastal Act Section 30231's provision for protection of groundwater supplies, Cal-Am revised its Project to include several new components. It now plans to extend its slant wells to be at least 1,000 feet long so as to maximize the amount of seawater they extract. It also plans to build the Project in phases, so that an initially smaller Project will both require less pumping and allow opportunities to monitor for potential adverse effects before the full Projects implemented. Cal-Am also proposes some additional monitoring measures and has committed to hold public hearings to present its monitoring results.

Even with these recent commitments, there will still be uncertainty about the effects of Cal-Am's groundwater pumping from this location. To provide additional protection and avoid or minimize potential impacts, the Commission is imposing several Special Conditions. **Special Condition 1** requires, prior to permit issuance, that Cal-Am submit the final decision in the above-referenced litigation, which is expected to adjudicate Cal-Am's right to extract groundwater and identify the amount of groundwater Cal-Am would be able to extract from its Project site (among other issues). **Special Condition 11** requires Cal-Am to install its wells to reach at least 1,000 feet seaward, if feasible, and if during installation it is found to be infeasible, to submit a revised plan for Executive Director approval, or an amended CDP (if the Executive Director determines it is necessary), showing the revised installation and that identifies any expected changes in the proportion of seawater to be extracted. To provide further protection for other groundwater users in the Basin pursuant to Coastal Act Section 30231, **Special Condition 12** requires Cal-Am to submit a monitoring and reporting plan, which is to be reviewed by an independent third-party to be funded by Cal-Am, that identifies monitoring measures that Cal-Am will implement to provide an "early warning" of any depletion of groundwater supplies resulting from Cal-Am's water extractions and goes beyond the requirements of Applicant Proposed Measure 4.4-3 in the Final EIR/EIS. This is intended to identify any precursors to potential effects Cal-Am's pumping may have on nearby freshwater sources and on any increasing seawater intrusion that may affect other uses, and to avoid other similar concerns through the implementation of additional analysis and any necessary remedial action long before any potential harm could occur.

Conclusion

Even though there is uncertainty about the potential impacts Cal-Am's water extraction would have on other users in the Basin, the analyses and Special Conditions described above allow the Commission to determine the Project will be protective of groundwater resources and therefore consistent with the relevant provision of Coastal Act Section 30231.

G. Environmentally Sensitive Habitat Areas - Wetlands and Vernal Ponds

Section 30231 Biological productivity; water quality

> 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.

LCLUP Exhibit A states:

> **Primary habitat.** This term includes all of the environmentally sensitive habitat areas in Marina. These are as follows:
> 1. Habitat for all identified plant and animal species which are rare, endangered, threatened, or are necessary for the survival of an endangered species. These species will be collectively referred to as "rare and endangered."
> 2. Vernal ponds and their associated wetland vegetation. The Statewide Interpretive Guideline for Wetlands and Other Wet Environmentally Sensitive Habitat Areas (California Coastal Commission, February 14, 1981) contains technical criteria for establishing the inland boundary of wetland vegetation...
>
> **Secondary habitat.** This term refers to areas adjacent to primary habitat areas within which development must be sited and designed to prevent impacts which would significantly degrade the primary habitat. The secondary habitat area will be presumed to include the following, subject to more precise determination upon individual site investigation:
> 1. The potential/known localities of rare and endangered plant species as shown on LUP p. 71 ("Disturbed Vegetation" map).
> 2. The potential wildlife habitats as shown on LUP p. 75 ("Potential Wildlife" map).
> 3. Any area within 100 feet of the landward boundary of a wetland primary habitat area.
>
> **Rare and endangered species.** This term will apply to those plant and animal species which are rare, endangered, threatened or are necessary for the survival of such species. The Environmental Analysis Report prepared for the Marina Local Coastal Program identified such species in the dune habitat areas. While future scientific studies may result in addition or deletion of species, the list presently includes:
>
> 1. Smith's Blue Butterfly **(**Shijimiaeoides enoptes smithi**)**[71]

[71] This name has been updated since publication of the LCP – it is now Euphilotes enoptes smithi.

2. Globose Dune Beetle **(**Coelus globosus**)**
3. Black Legless Lizard **(**Anniella pulchra nigra**)**
4. Salinas Kangaroo Rat **(**Dipodomys heermanni goldmani**)**
5. Seaside Painted Cup **(**Castilleja latifolia ssp. Latifolia**)**
6. Monterey Spine Flower **(**Chorizanthe pungens var. pungens**)**
7. Eastwood's Ericameria **(**Ericameria fasciculate**)** [sic][72]
8. Coast Wallflower **(**Erysimum ammophilum**)**
9. Menzies' Wallflower **(**Erysimum menziesii**)**
10. Coastal Dunes Milk Vetch **(**Astragalus tener var. titi**)**
11. Dune Gilia **(**Gilia tenuiflora var. arenaria**)**
12. Wild Buckwheat **(**Eriogonum latifolium**)****
13. Wild Buckwheat **(**Eriogonum parvifolium**)****
14. Bush Lupine **(**Lupinus ssp.**)+**

* only within the range of Smith's Blue Butterfly.
\+ only within the range of the Black Legless Lizard.

LCLUP Habitat Protection Policies include:

> Before any use or change in use, areas identified as potential habitat for rare and endangered plant or animal species shall be investigated by a qualified biologist to determine the physical extent of the primary habitat areas for the specific rare and endangered plants and animals on that site.
>
> Primary habitat areas shall be protected and preserved against any significant disruption of habitat values and only uses dependent on those resources shall be allowed within those areas. All development must be sited and designed so as not to interfere with the natural functions of such habitat areas. Management and enhancement opportunities should be incorporated into use or development proposals; potential impacts shall be fully mitigated, including the assurance of long-term mitigation and maintenance of habitat through the use of appropriate acreage replacement/restoration ratios for any unavoidable direct impacts to habitat areas.

LCP Policy 24 states:

> To protect and encourage the restoration of the vernal ponds to their original state and allow only those uses adjacent which will reinforce and conserve the unique habitat qualities of these ponds.

Cal-Am's Project has the potential to indirectly affect wetlands and vernal ponds in the surrounding area. Vernal ponds are generally considered wetlands for purposes of the Coastal Act; however, the City's LCP further specifies that vernal ponds and their associated wetland vegetation are a type of primary habitat and are thereby considered ESHA. Vernal ponds are relatively rare and often biologically important seasonal wetlands used during avian migration and amphibian breeding seasons. Further, since

[72] The correct spelling is Ericameria fasciculata.

the Project does not include direct impacts through fill or dredging of wetland areas that would be addressed under Section 30233 of the Coastal Act, indirect impacts to wetlands are assessed here under Section 30231 and the relevant LCP policies listed above.

The LCP and other City and County planning documents identify several areas within the expected groundwater drawdown zone of Cal-Am's well field as vernal ponds and wetlands, and data from the National Wetlands Inventory suggests the presence of several more (see **Exhibit 7**). Among the closest, approximately 1,000 feet from the nearest the well field, are several dozen acres on either side of Highway One south of Lapis Road, known as the Armstrong Ranch Ponds. They are within the County's coastal zone and are designated "Habitat Reserve and Other Open Space." This complex of vernal ponds is generally dry at the surface for part of the year and floods in the spring during periods of precipitation, though they are occupied year-round by marsh vegetation species. They also represent an important habitat feature for a number of avian species including sensitive California coast horned lark and loggerhead shrikes as well as other, particularly during migration season, and provide potential breeding habitat for any of several amphibian species as well as fairy shrimp. Other smaller biologically important vernal ponds are in the drawdown zone and within the City of Marina, though somewhat further from the well field. The FEIR/FEIS identified several vernal ponds and wetlands at and near the CEMEX site and near the various Project pipeline routes.

Potential Impacts

As described in the FEIR/FEIS, construction activities have the potential to result in runoff, dust, noise and disturbance to surrounding wetland areas, so it requires several mitigation measures meant to reduce these impacts to less than significant levels. Another potential indirect impact from the Project on surrounding wetlands could be from drawdown of groundwater levels resulting from Cal-Am's pumping from its well field. The FEIR/FEIS determined that although wetland areas were located within the drawdown zone of the pumps, these wetland areas were likely "hydrologically disconnected" from the underlying groundwater and would therefore not be affected by the pumping.

After the conclusion of the CEQA review, and after the Commission's November 2019 hearing, Commission staff received an April 2020 analysis provided by the City of Marina that described many of these wetland areas as "groundwater-dependent ecosystems" ("GDEs") and identified potential adverse effects due to the groundwater drawdown.[73] GDEs include various types of wetland areas with hydrology supported entirely or in part by underlying groundwater. They include permanent, seasonal, and temporary wetlands (including vernal ponds) that change in extent and depth in response to changes in underlying groundwater elevations.

[73] Formation Environmental, April 13, 2020. The analysis considers both freshwater and saltwater marsh as well as willow riparian forest habitats associated with the City's wetlands as groundwater-dependent and therefore vulnerable to draw-down from vegetation roots zones, reduces surface hydroperiods, etc.

The City's GDE review identified several previously unknown potential adverse effects on several nearby vernal ponds and other wetlands. It included data and analyses indicating that several of these areas do not appear to be the "perched" wetlands presumed during CEQA review but appear to be connected to the underlying groundwater within the shallow Dune Sands Aquifer that underlies this area. The GDE review described data collected from Cal-Am's monitoring wells closest to some of these areas during Cal-Am's approximately two-year pump test, which included about two dozen events where groundwater drawdown and recovery was correlated with the start and stop of pumping activities. At the Armstrong Ranch vernal pond complex, the City's review identified a relatively immediate groundwater drawdown/response of about one foot. The review also notes that the groundwater underlying these areas has variable salinity levels (from slightly brackish to nearly the same as seawater), suggesting it has sources other than the primarily fresh water that would be expected from precipitation. Additionally, it observes that the overlying habitat includes vegetation species adapted to this range of salinity variation.

Later, in June 2020, Commission staff received a report from the Commission's independent hydrogeologist that described additional groundwater modeling conducted in addition to that done previously as part of CEQA review and by Cal-Am (this report is more thoroughly described in Section IV.F of these Findings).[74] Part of the additional modeling was meant to identify expected groundwater drawdown levels beneath nearby vernal ponds and wetlands that could result from Cal-Am's longer-term pumping operations. This report identified such modeled drawdowns of between about two to four feet beneath the closest of these features – at the Armstrong Ranch Ponds – and attenuating at more distant features – for example, to just under one foot drawdown at the Lake Drive Pond within the City, which is about 1.6 miles from the Project well field. These drawdown levels appear to be fairly consistent with those the City identified in its above-referenced GDE review; for example, Cal-Am's test well pumping at about three mgd showed a one-foot drawdown at the Armstrong Ranch vernal pond complex, whereas modeling based on Cal-Am's initially proposed project that would have withdrawn about 16 mgd shows about a four-foot drawdown.

The City then provided a July 2020 report updating the 1994 CVCMP with a current assessment of hydrologic conditions and biological resources at six of the seven vernal ponds within or adjacent to its jurisdiction.[75] While the report did identify some limited changes to the ponds including new pockets of wetland vegetation supported by freshwater runoff and expanded willows, it also concluded that all six areas revisited have remained approximately as described in the original 1994 CVCMP. Importantly, it also determined that they should all be considered GDEs on the basis of a suite of ecological indicators accounting for source water quality, growth patterns, and

[74] Weiss Associates, July 10, 2020.

[75] See WRA Environmental Consultants, Biological Resource and Groundwater Dependency Analysis of Marina Vernal Ponds, prepared for City of Marina, July 30, 2020.

vegetation condition in summer months, and that as GDEs, these sensitive habitats would be vulnerable to any significant changes in groundwater levels.

Effects of drawdowns

These recent analyses, submitted by the City, although not comprehensive, suggest that changes in groundwater levels associated with drawdown from the proposed pumping could adversely affect the functions and values at up to several dozen acres of these vernal ponds and wetlands, primarily at the Armstrong Ranch Ponds, and possibly at other nearby wetlands. Because the City's analyses and those submitted by Cal-Am and its consultants diverge on key points, it is difficult to precisely determine the specific nature and magnitude of expected effects, if any, as they would vary by vegetation and wildlife species, by temporal changes in precipitation and natural variation in groundwater levels, by the location in the landscape of the wetland features, and various other factors and could not be definitively identified until after Project operations begin. Under the phased Project, potential effects are likely to be less, since Phase I would extract less water, but the differences have not yet been adequately quantified. The groundwater drawdowns could result in the following types of adverse effects:

- Reduction of surface water extent and depth
- Temporal losses of vernal pond functions and values, including shifts in the timing of surface flooding as well as reduced durations of flooding.
- Reduction of wetted area around the root zones of marsh or aquatic vegetation.
- Reduction in species diversity.
- Reduction in habitat resilience.

To address these concerns, Cal-Am has recently proposed developing an adaptive management program with two stages. In the first, Cal-Am would collect supplemental data and monitor vernal ponds and wetlands within the Project's drawdown zone during the first five years of operations. If the results of that effort showed that there was no connection between well operation and conditions at the wetlands and vernal ponds, no further action would be taken. However, if a connection was determined to exist, Cal-Am would move into a second phase, where it would develop a second plan that would evaluate and mitigate impacts, and potentially bring that plan back to the Commission for consideration. Given the many environmental factors that might reasonably affect vernal ponds and wetlands, including fluctuations in annual precipitation associated with drought or El Nino years, and the complex interactions among changing groundwater elevations and the presence and distribution of different species with variable responses to those changes, it would be difficult to monitor Project effects without adequate reference sites or baseline data for many of these areas. In addition, disagreement concerning the zone of potential drawdown influence exists. It would likewise be difficult to ensure adequate mitigation for any adverse effects, in part due to the potential extent of the effects – which could cover up to several dozen acres of wetlands and vernal ponds – and also due to the difficulty in identifying sites where creating or restoring wetland or vernal ponds could be successful and would not result in the conversion of other sensitive habitats.

To ensure the Project remains consistent with Coastal Act Section 30231 and LCP Habitat Protection Policies, **Special Condition 13** requires Cal-Am to develop a robust adaptive management program to detect any potential impacts the Project may have on the Project's expected drawdown area plus a buffer area extending a minimum of 50% of the distance from the pumping area to the edge of the drawdown zone to account for uncertainty in the zone of potential influence. The program would require a minimum of two years of monitoring immediately prior to Project operations, to provide some level of baseline to compare against, as well as identification and monitoring of reference sites appropriate for the different wetland types within the monitoring area. Monitoring parameters would address wetland geometry (I.e., horizontal extent as well as depths of surface water, saturation), characterization of hydrologic sources (i.e., groundwater and surface inputs), variability in water quality and hydroperiods, vegetation communities, and sensitive plant and animal species habitat and use. Remote-sensing methods would be used along with on-the-ground sampling efforts, and reports would be provided annually. Cal-Am would be required to provide for a third-party review, which would be selected by the Executive Director in consultation with the City of Marina, to aid in interpreting complex monitoring results. Should the results of this Stage 1 effort suggest that there is a connection between the Project's pumping and vernal ponds or other wetlands, Cal-Am would be required to return to the Commission for a permit amendment with a plan to continue monitoring and provide compensatory mitigation for any observed or future impacts.

Conclusion

With this protective **Special Condition 13**, the Project can be found consistent with the provisions of Coastal Act Section 30231 and the above-referenced provisions of the LCP requiring that "[p]rimary habitat areas [will] be protected and preserved against any significant disruption of habitat values," and that it will ensure the maintenance of the biological productivity and the quality of coastal wetlands.

H. COASTAL HAZARDS

Coastal Act Section 30253 states, in relevant part:

> New development shall do all of the following:
> (a) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.
> (b)Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs…

The LCLUP states:

> Before development is permitted in the Coastal Zone, a geotechnical report appropriate to the specific proposal shall be prepared for that development in the dunes or in the vicinity of any vernal pond. The report shall include at least geologic and seismic stability, liquefaction potential, identification of an appropriate hazard setback to protect the economic life of structures, and specific recommendations on drainage, irrigation and mitigation of identified problems. Report contents shall comply with guidelines of the California Division of Mines and Geology.
> …
> No new development shall be permitted which will require the construction of shoreline protection structures unless such development is in accordance with the provisions of the "Small Boat Harbor" section of this Land Use Plan, or when such structures are necessary to serve coastal dependent uses (as defined in the Coastal Act) or to protect publicly owned beaches from erosion.

The LCLUP states:

> Tsunami Hazard: Tsunamis are seismic sea waves, often erroneously called "tidal waves." Because of the height and depth of the Coastal dunes in Marina, inland areas are not within the tsunami hazard zone. The areas most subject to tsunami in Marina are the sandy beaches and dunes. With an adequate tsunami warning system, there is no significant tsunami threat to beach users. Since there is little development within the tsunami run-up zone, there is little present threat. Future development should not occur in the tsunami run-up zone (on the sandy beaches and foredune area).

The LCP's North of Reservation Road Planning Area requires proposed development consider:

> Public safety and vulnerability to wave erosion.
>
> Tsunami and other coastal hazards.

The LCLIP states:

> **Standards for Coastal Protection Structures:** Except for a few facilities associated with sand mining, there currently is little capital investment to be threatened by erosion along Marina's shoreline. The face of the dunes is subject to wave erosion, so future development shall be placed beyond the area vulnerable both to wave erosion and tsunami hazard. This setback shall be great enough to protect the economic life of the proposed development (at least 50 years) and be east of the tsunami hazard zone. The exact extent of this setback shall be determined by a qualified geologist, selected from an approved list compiled and maintained by the City. Because of variation from site to site, the setback line shall be determined at the time development of a site or parcel is proposed.
>
> Protective structures are not recommended in Marina; however, if they should ever be necessary, standards shall be established to ensure that the type of protection, location, design and other factors are considered. In determining if it is suitable to issue a coastal permit for a shoreline structure, the following shall be addressed: (1) alternatives to a protective structure shall be determined and evaluated by appropriate specialists first; and (2) an EIR/EIS shall be required on the proposed structure. The EIR/EIS shall address specific issues of Local Coastal Land Use Plan concern, construction and maintenance. The environmental evaluation and mitigations shall be prepared by qualified specialists and shall address at a minimum the following specific issues and design considerations.

Coastal erosion and sea level rise

Background: The well field would be just inland of the actively eroding shoreline of Monterey Bay, with the existing test well located about 600 feet inland and the other proposed wells to be located about 800 feet inland. The Bay shoreline near Cal-Am's proposed well field has exhibited the highest annual erosion rates in the state, due in part to relatively high levels of wave energy and the easily erodible sand that makes up most of the Bay shoreline. The area has experienced, and will likely continue to experience, storm-driven erosion that results in losses of as much as 100 feet of beach during a single event. Erosion along this stretch of shoreline also results in the recession inland of the dune system located adjacent to the beach. As the beach erodes, the dune profile moves inland, though not necessarily at the same rate as the shoreline or with the same dune profile.

Along with the natural shoreline processes that drive coastal erosion in this area, a substantial additional contributor has been the sand mining that occurred at the CEMEX facility over many decades. CEMEX's removal of more than 100,000 cubic yards of sand annually from the nearshore area served to reduce the sand supply along the shoreline, thereby exacerbating the ongoing natural erosive processes. As detailed below, although the sand mining operations have ended, the shoreline is expected to continue having a relatively high erosion rate.

In recognition of the area's high erosion potential, the LCP requires that development be located inland of areas near the shoreline that are vulnerable to erosion. The FEIR/FEIS included an assessment of the effects of sea level rise and coastal erosion on the proposed well field and the most seaward sections of the Source Water Pipeline. Coastal erosion studies during early stages of the Project's environmental review showed that the then-proposed well field could be affected by coastal erosion expected during the Project's operating life. Cal-Am then relocated the proposed well heads about 400 feet further inland to their currently proposed location. For these new locations, the FEIR/FEIS modeled "stand-alone" expected erosion rates as well as those same rates when accompanied by 100-year storm events. It found that expected erosion by 2060 would remove about 300 feet of the beach and dune profile and that adding a 100-year storm event would remove an additional 130 feet for a total of 430 feet. This analysis showed that most of the well field would escape erosion until 2060, although the existing test well that Cal-Am proposes to convert to a permanent well would likely be affected sooner, as it is about 200 feet closer to the current shoreline than the other wells.

To address the anticipated erosion hazard, the FEIR/FEIS included a mitigation measure requiring Cal-Am to monitor the rate of coastal retreat and to determine, based on the identified and expected annual erosion rate, when there are no more than five years before the wells would become exposed due to erosion.[76] At that point, Cal-Am would be required to start the planning and permitting needed to abandon the wells in accordance with state well destruction requirements, and upon receipt of the necessary approvals, Cal-Am would remove the wells. As noted above, Cal-Am expects its wells to have useful lives of only about 20 to 25 years before they need to be relocated, so it does not expect that they would be affected by erosion.[77]

However, this CEQA analysis was done in 2016 and was based on sea level rise guidance and scenarios that have been superseded by more recent state and Commission guidance that anticipates more rapid, and greater, sea level rise.[78] For example, the projections used in the FEIR/FEIS anticipated sea level rise of 15 inches by 2040 and 28 inches by 2060, whereas the currently applicable projections for the Monterey Bay area anticipate a range of sea level rise in 2040 of between about 15 and 20 inches and a 2060 range of 31 and 46 inches (increases of up to 33% and 64%, respectively). The assessments were also done before completion of the CEMEX Settlement, which requires CEMEX to permanently stop its sand mining operations by the end of 2020, so they do not reflect what the expected erosion rates will be after CEMEX ceases removing large amounts of sand from this stretch of shoreline.

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[76] See FEIR/FEIS Mitigation Measure 4.2-10.

[77] The limited operating life is due to wells such as these experiencing reduced yields due to a slow build-up of fine sediments in or near the screened intake portion of the well casing.

[78] See the Ocean Protection Council's State of California Sea-Level Rise Guidance 2018 Update and the Coastal Commission's 2018 Sea Level Rise Policy Guidance and November 7, 2018 Science Update.

Prior to the Commission's November 2019 hearing on the proposed Project, Commission staff requested that Cal-Am provide an updated assessment of expected sea level rise and coastal erosion based on current state guidance and projections and on-site conditions expected without sand mining. In response, Cal-Am provided an October 2, 2019 technical memorandum – "Updated Coastal Erosion Hazard Analysis for CalAm Monterey Peninsula Water Supply Project," prepared by AECOM. This technical memorandum assesses expected sea level rise and coastal erosion effects on Cal-Am's proposed well field and Source Water Pipeline using low, medium-high, and extreme risk aversion scenarios for the years 2040, 2060, and 2120. It includes the high GHG emission scenario for each to provide a more conservative assessment of expected effects. It also considers the effects of both a 100-year and 500-year storm event on site erosion to provide additional conservatism (i.e., projections that provide a greater margin of safety). To reflect the expected site conditions resulting from the closure of the CEMEX sand mining operations, it assumed a 60% reduction in the historical retreat rate along the stretch of shoreline.[79] For each of the several scenarios, the memorandum separately describes the expected effects on the test slant well, which Cal-Am proposes to convert to a long-term well for the Project and is located about 600 feet from the current shoreline, and on the rest of the well heads that would be constructed about 800 feet from the current shoreline.

The Commission's coastal engineer reviewed the FEIR/FEIS and Cal-Am assessments and prepared a technical memorandum describing that review and its conclusions (see **Exhibit 8**). The review concluded that under the above scenarios, both the test well site and the other well sites would likely be safe from erosion through 2040, that the test well site could be at risk by 2060, and that both the test well site and other well sites would likely be at risk by 2120.

Since then, however, California has developed a new principle calling for permitting agencies to consider, for planning purposes, an increase in sea level of 3.5 feet by 2050.[80] Compared to the Commission's above-referenced current sea level rise guidance, this would result in expected sea level rise projections occurring several years sooner than previously anticipated. For example, instead of reaching the above-referenced 31- to 46-inch range of increase by 2060, it would be expected by about 2045 to 2050. Commission staff requested Cal-Am provide additional analysis showing the expected site conditions under this most recent state guidance. Essentially, using these projections, the well field could be at risk by 2045 to 2050 instead of 2060.

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[79] This assumed 60% reduction is derived from studies and a sand budget analysis presented in two documents prepared, in part, to identify the effects of those mining operations on erosion along the Monterey Bay shoreline. See Environmental Science Associates and Phillip Williams and Associates, Evaluation of Erosion Mitigation Alternatives for Southern Monterey Bay, prepared for the Monterey Bay Sanctuary Foundation and the Southern Monterey Bay Coastal Erosion Working Group, May 30, 2012, and Young, Robert, An evaluation of the ongoing impacts of sand mining at the CEMEX Lapis Sand Plant in Marina, California on the Southern Monterey Bay Shoreline, 2017.

[80] See Ocean Protection Council, Strategic Plan to Protect California's Coast and Ocean 2020 – 2025, February 2020.

With the test well site at risk from these expected long-term erosion scenarios, the Project could include development in an area subject to wave erosion during the next 50 years. This presents some tension with LUP and IP policies that generally require setbacks adequate to protect new development for "the economic life of the proposed Project (at least 50 years)." The LUP has an exception to this policy allowing construction of shoreline protection structures when necessary to serve a coastal-dependent industry, which might apply to the test well portion of this project. However, Cal-Am is not proposing any such structures, and the LCP's standards for approving such structures require several analyses not included as part of the proposed project, including an assessment of alternatives to any such protective structure and review of any proposed protective structure through an Environmental Impact Report. Without an adequate setback to allow for 50 years of protection, and without these analyses being completed, the Project's well field component could be inconsistent with LCP policies related to coastal erosion unless there is a requirement to remove the test well when it becomes threatened. However, Mitigation Measure 4.2-10 in the FEIR/FEIS requires Cal-Am to monitor and remove the slant wells five years prior to any anticipated exposure. Thus, the Project is consistent with LCP policies related to coastal erosion because there is a requirement to remove the slant wells when they become threatened.

Cal-Am expects that its wells would operate for no more than 20 to 25 years and then need to be rehabilitated or relocated, which would presumably result in them avoiding coastal hazards related to erosion during the term of this permit. This would allow for conformity with the LCP's coastal hazards provision related to the expected economic life of the development. **Special Condition 6** is based on Cal-Am's characterization that the wells have an approximately 20- to 25-year economic life and limits the term of this permit for 25 years after installation or until January 1, 2050. This latter date is in recognition of the increased uncertainty about our current projections of sea level rise and climate change after 2050. **Special Condition 6** also requires Cal-Am to apply for a new or amended CDP to remove or relocate the wells at least two years before the end of this permit term. While this Special Condition removes the project's inconsistency with the LCP provision that specifies a 50-year economic life, it creates a different concern that Cal-Am's desalination facility may not be able to operate for its overall expected 60-year operating life since Cal-Am does not currently have a legal interest in locations further inland where Cal-Am might be able to relocate its wells. Additionally, much of that inland area is expected to be restored as a result of the above-referenced Settlement Agreement. A shorter operating life of the desalination facility may also create substantial changes in the Project's financing and water rates, since Cal-Am may seek to recover its costs in a much shorter time than the anticipated 60 years. These issues are described in more detail below and in Section IV.I – Assessment of Alternatives and in Section IV.O – Environmental Justice.

The Commission also considered whether the wells would be affected by expected dune recession at the well field location.[81] As noted above, the site's foredunes will recede inland as a consequence of shoreline erosion and at some point will occupy the same area as the well sites. The initial review, conducted in October 2019, concluded that the risk of this occurring would be low before 2040, but would increase thereafter. Additionally, dune height is likely to increase along with the increases in sea level – for example, as sea level elevates by its expected 15 to 20 inches by 2040, the dune face could experience a similar height increase and an inland migration of the profile. The issue of well site burial was examined not as a risk in itself, but since it could lead to the need for greater maintenance of the well heads and thus greater site disturbance. It is difficult to estimate exactly when these backshore adjustments would occur as there would very likely be a lag time between changes in sea level and changes to the beach and then changes to the back shore. With these uncertainties it is difficult to estimate when the dune profile might shift inland; however, the well sites have been located inland of and at a lower elevation than the dune crests, and inland migration of the profile could eventually cover the well sites. The review concluded that risk is low that any of the well sites could be buried by 2040 but that the risk would increase over time. Because of differences in the elevations of the well heads and variations in the dune profile – i.e., the dunes seaward of some well sites are higher or contain greater volumes of sand than those seaward of other well sites – the timing and amount of burial would likely vary among the well sites. The review concludes that the test well head would experience the greatest risk from dune erosion; however, since the more inland well field is 12 to 15 feet lower than the frontal dune, the well field might be more at risk from the inland shift of the dune profile.

Overall, no appreciable erosion risks are anticipated to occur at the test well or the well field areas by 2040. There are small risks to the test well site from storm-related erosion between 2040 and 2060. There are also small risks to the test well site and the well field site from possible sand burial that would be minimal through 2040. There is a small chance that the well field site might experience several feet of sand burial between 2040 and 2060. Beyond 2060, it becomes more likely that significant burial could occur. Again, however, this October 2019 review was completed before the state's adoption of the recent planning principle of expecting 3.5 feet of sea level rise by 2050, so any expected risks may happen several years sooner.

In June 2020, Cal-Am provided an updated analysis of expected dune recession that details the various mechanisms involved in this type of sand movement. It concluded that the primary mechanism – dune blowouts, which involves the wind being funneled through gaps in the dune and causing higher rates of erosion in and near those gaps – could result in two of the seven proposed well head sites being affected by sand burial within about 20 to 25 years. It also found, though, that this effect could be reduced or delayed through measures such as removal of invasive vegetation and re-establishment of native dune vegetation to stabilize the dunes, or by installing sand fences or elevating

[81] Neither the FEIR/FEIS nor the AECOM technical memorandum assessed risk from this hazard.

the well head sites, either of which would likely require additional CDP review and approval. Cal-Am also proposed a special condition that would include the "soft" measures above – removal of invasive species and re-establishment of native vegetation – along with annual monitoring of the dunes and well heads to identify the rate of dune recession. Once the identified rate of recession showed that the well heads could be buried within five years, Cal-Am would return to the Commission with any proposed development, such as sand fencing, elevating or relocating the wells, etc., for additional review and permitting.
Similar to the above coastal erosion scenarios, the risk to the wells from this erosive process of dune recession could create some tension regarding conformity to the LCP provision that requires identification of an adequate hazard setback to protect at least a 50-year economic life of the structures and specific recommendations to mitigate any identified problems. However, as noted above, after 25 years, the wells may need to be rehabilitated or relocated, depending on certain factors, including updated analysis of potential coastal hazards, reduced yields, or others. Importantly, and as noted above, Cal-Am does not have legal interest in property further inland, so it has no locations available yet to site the wells after this expected initial 25 years of operations. The above-referenced **Special Condition 6** addresses concerns about the hazards beyond this period. The 25-year permit term allows for conformity to the above-referenced LCP requirement that development include setbacks adequate to protect it during its expected operating life, but as noted above, this limited operating life raises concerns about whether Cal-Am would be able to operate its desalination facility for only 20-25 years instead of its proposed 60-year operating life (this is discussed further in Section IV.O – Assessment of Alternatives). Importantly, without **Special Condition 6**, the currently proposed locations would be inconsistent with the previously referenced FEIR/FEIS Project objective to "locate key project facilities in areas that are protected against predicted future sea-level rise in a manner that maximizes efficiency for construction and operation and minimizes environmental impacts," which is also described in Section IV.H below.

It is not clear that Cal-Am would be able to obtain the additional legal interest needed to move its wells further inland. However, the areas of CEMEX inland of Cal-Am's current proposed well sites are largely slated for reclamation and restoration as dune habitat. With this 25-year operating period and no alternative locations known to be available, future well sites and operations beyond that period would be considered speculative.

Regarding tsunami hazards, the LCP recognizes the area's high erosion potential and requires that development be located inland of areas near the shoreline that are vulnerable to tsunami runup. Cal-Am has proposed locating the well heads inland of the tsunami runup zone identified in the LCP and at an elevation of approximately 30 feet (NAVD88), which would be above the most recently identified maximum tsunami runup estimate of 18 feet, both now and under projections of several feet of sea level rise.[82]

[82] See Wood, et. al, Community Exposure to Tsunami Hazards in California: U.S. Geological Survey Scientific Investigations Report 2012–5222, 2013.

Finally, with the uncertainties involved with predicting the likelihood and extent of future hazards at this location, additional Special Conditions are necessary to ensure the proposed development does not adversely affect coastal resources. **Special Condition 14** requires that the wells and associated components be removed if damaged and prohibits the use of shoreline protection devices in the event the well field is subject to threatening erosion or other hazards during the term of this permit, and **Special Condition 15A** and 15B ensure that Cal-Am acknowledges the risks involved in siting its development at this location.,

Conclusion
With the above Special Conditions, the Commission finds that the Project would conform to relevant Coastal Act and LCP provisions regarding coastal hazards and the avoidance of risk from those hazards.

I. ENVIRONMENTAL JUSTICE

Coastal Act Section 30604(h) states:

> 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.

Section 30604(h) provides for the Commission to evaluate environmental justice considerations when making permit decisions. As defined in Section 30107.3 (a) of the Coastal Act, "environmental justice" means "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."[83] Section 30107.3(b)(4) states that environmental justice includes, "[at] a minimum, the meaningful consideration of recommendations from populations and communities most impacted by pollution into environmental and land use decisions."[84]

In March 2019, the Commission adopted an environmental justice policy ("EJ Policy") to guide and inform its implementation of Section 30604(h) in a manner that is fully consistent with the standards in, and furthers the goals of, Chapter 3 of the Coastal Act and certified local coastal programs. The EJ Policy further articulates environmental justice as the following:

> The term 'environmental justice' is currently understood to include both substantive and procedural rights, meaning that in addition to the equitable distribution of environmental benefits, underserved communities also deserve equitable access to the process where significant environmental and land use decisions are made.

Ensuring access to the Commission's proceedings means making sure that those who are affected by proposed development have a meaningful and equitable opportunity to voice concerns in an open and transparent public process. Substantively, the EJ Policy describes how the Commission will work to ensure equitable access to the coast, support measures that protect existing affordable housing, and ensure that environmental justice communities are not disproportionately affected by climate change, water contamination, overuse, or diminished environmental services.

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[83] Coastal Act Section 30013, which provides that the Commission is to advance the principles of environmental justice and equality, references California Government Code section 65040.12(e), which 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."

[84] Added by AB 1628 (Rivas), Chapter 360, Statutes of 2019.

The then-proposed Project was scheduled to come before the Commission in September 2020, but the Applicant withdrew the CDP application before the hearing, saying in public statements that they wanted additional time to address the environmental justice concerns from the City of Marina and water cost concerns from their customers before coming back to the Commission for review. Two years later, opponents of the Project continue to express procedural and substantive concerns about its impacts on communities of color and low-income communities located near the Project site in the City of Marina, as well as on Cal-Am service area ratepayers. Project proponents have pointed out the benefits to environmental justice communities outside of the service area, including the nearby community of Castroville. This section addresses these concerns in this section.

Identifying Communities of Concern

The Commission's EJ Policy was created to provide a framework to consider fair outcomes and requires staff to reach out to and include the voices of environmental justice community members[85] who have been historically marginalized in the governmental review process and whose households have been disproportionately burdened by environmental hazards often stemming from industrial development. The goal is to make sure these voices are thoughtfully considered by the Commission during the decision-making process.

To identify these communities, staff evaluated various quantitative and qualitative sources of information for the City of Marina, which is where the Project is located, and the nearby community of Castroville, which is an unincorporated area of Monterey County that would receive desalinated water as part of a CPUC-approved water rights settlement agreement (the Return Water Agreement). As such, the Castroville community will also be affected by the Project outcomes. As shown in **Exhibit 5**, Cal-Am's service area includes parts of unincorporated Monterey County, census designated places, such as Del Monte, and jurisdictions of Seaside, Sand City, Carmel-by-the-Sea, Del Rey Oaks, Pacific Grove, and Monterey. Quantitative indicators in the selected geographies were used to identify low-income communities either through the low-income definition from AB 1550 or at two times the federal poverty level.[86] This

[85] In this staff report, the terms "underserved communities" and "environmental justice communities" are used interchangeably with the term "communities of concern." All these terms refer to low-income communities, communities of color, and other populations with higher exposure and/or sensitivity to adverse project impacts due to historical marginalization, discriminatory land use practices, and/or less capacity to mitigate adverse impacts.

[86] AB 1550 identifies "Low-income communities" as census tracts with median household incomes at or below 80 percent of the statewide median income or with median household incomes at or below the threshold designated as low-income by HCD's State Income Limits adopted pursuant to Section 50093 of the Health and Safety Code. This measure provides a more specific measure of identifying low-income communities in California due to higher costs and wages in the state, which is not reflected by the Federal Poverty Level

includes limited English proficiency households[87], housing-burdened[88] households, population of color,[89] and communities with high exposure to pollutants, adverse environmental impacts or sensitivities to pollution according to CalEnviroScreen 4.0. The demographic and socioeconomic indicators establish a high number of communities of concern in four areas, all affected by the Project: Marina, Seaside, Sand City, and Castroville.

More than half the population in Castroville, Marina, and Seaside identifies as a person of color, and in Castroville approximately a quarter of households have limited English proficiency (see Table 1 below). Although all of the jurisdictions in Cal-Am's service area have individuals who are experiencing poverty[90] (Table 2), Castroville, Marina, Seaside, and Sand City have a much higher proportion of their population living under the poverty threshold (see Table 2). Additionally, the region has several housing-burdened communities, where low-income households are paying more than 50% of their household income towards housing and utilities (see **Exhibit 9**). Increasing utility rates for housing-burdened ratepayers would exacerbate these existing cost burdens.

[87] Households where no one over age 14 speaks English very well. Based on "linguistic isolation" indicator from CalEnviroScreen 4.0.

[88] The housing burden indicator from CalEnviroScreen 4.0 is the percent of households in a census tract that are both low income (making less than 80% of their county's median family income) and severely burdened by housing costs (paying greater than 50% of their income for housing costs).

[89] Population of color refers to anyone that identifies as Hispanic (of any race) and anyone who identifies as non-Hispanic but as a race other than white on the Census, such as Black or African American, Asian, or American Indian.

[90] In this staff report, the term "poverty" is defined as households or individuals with income below a threshold of twice the federal poverty level because California's cost of living is higher than many other parts of the country. This is the indicator for poverty in CalEnviroScreen 4.0.

Table 1: Demographic Characteristics

Geography	Total population	Population of color		Total Households	Limited English Proficiency Households	
		Population	%		Households	%
Cal-Am Service Area[91]						
Carmel-by-the-Sea	3,220	358	11%	1,909	0	0%
Del Monte Forest	4,204	884	21%	1,710	35	2%
Del Rey Oaks	1,592	451	28%	633	8	1%
Monterey (city)	30,218	9,866	33%	12,373	338	3%
Pacific Grove	15,090	3,922	26%	6,977	123	2%
Sand City	325	151	46%	162	10	6%
Seaside	32,366	21,136	65%	10,709	778	7%
Other Geographies						
Marina	22,359	13,918	62%	7,777	712	9%
Castroville CDP	7,515	6,170	82%	1,426	373	26%
Monterey County	439,035	280,156	64%	126,003	14579	11%
State of California	39,538,223	23,242,101	59%	13,103,114	1,134,348	9%

Source: U.S. Decennial Census 2020; U.S. Census Bureau 2016-2020 American Community Survey Data, 5-year estimate.

[91] Staff approximated Cal-Am's service area by including these cities and census designated places. The table does not depict some of the unincorporated areas of Monterey County part of the service area.

Table 2: Income Characteristics

Geography	Total population[92]	Poverty (individuals with income below 200% the federal poverty level)		Median household income
		Individuals	Percent	
Cal-Am Service Area[93]				
Carmel-by-the-Sea	3,220	367	10%	$101,696
Del Monte Forest CDP	4,204	231	6%	$143,750
Del Rey Oaks	1,592	190	13%	$101,458
Monterey (City)	30,218	4,771	18%	$80,908
Pacific Grove	15,090	1,924	13%	$89,088
Sand City	325	317	33%	$57,000
Seaside	32,366	10,250	31%	$68,399
Other Geographies				
Marina	22,359	6,622	31%	$73,115
Castroville CDP	7,515	3,067	48%	$66,839
Monterey County	439,035	136,649	33%	$76,943
State of California	39,538,223	11,344,790	29%	$78,672

Source: U.S. Census Bureau 2016-2020 American Community Survey Data, 5-year estimate.

In addition to gathering and evaluating quantitative information from online sources, Commission staff met with community members and leaders from or who work in Castroville, Marina, and the Monterey Peninsula communities of concern affected by the Project. In September 2019, staff traveled to the area to learn about the lived experiences of residents, and to corroborate quantitative information. Staff met with residents from Marina and Seaside, including subsistence fishers, single parents living in Section 8 (federally subsidized) housing, retirees on fixed incomes, recent immigrants caring for extended families, and head-of-household wage earners working multiple jobs to support their families. In early 2020, because COVID-19 travel restrictions made travel infeasible, staff conducted outreach by email and phone with Castroville residents including Community Services District staff, social justice advocates, a county representative, water experts, and other stakeholders. Staff continued and expanded outreach efforts in 2022 over the phone and via video conferencing when Cal-Am

[92] The total population in Table 2 does not include individuals for whom poverty status cannot be determined, which includes people living in institutional group quarters (i.e., prisons, nursing homes), college dormitories, military barracks, and living situations without conventional housing (and who are not in shelters). See U.S. Census Bureau for more information: https://www.census.gov/topics/income-poverty/poverty/guidance/poverty-measures.html

[93] Staff approximated Cal-Am's service area by including these cities and census designated places. The table does not depict some of the unincorporated areas of Monterey County part of the service area

resubmitted its Project proposal. Staff spoke with community members from Marina, Castroville, and the Monterey Peninsula.

The City of Marina is located eight miles north of Monterey, includes a modest downtown dotted with Asian and Mexican markets and family-owned restaurants. In limited English proficient households within this area, the top three non-English languages spoken include Spanish, Vietnamese, and Korean.[94] The city has a disproportionate amount of nearby industrial development that serves many areas in the region beyond Marina, including a regional landfill, regional composting facility, and regional sewage plant. Nearby Fort Ord is a contaminated site listed on the U.S. EPA's national priorities list.[95] Marina is also home to the former CEMEX sand mining facility, the last coastal sand mining operation in the country, which recently ceased sand mining operations pursuant to Coastal Commission Consent Order CCC-17-CD-02. While Marina has high concentration of industrial development compared to other coastal communities in the Monterey area, it is committed to public engagement, and many residents care deeply about the future of their town.

The Project would directly impact coastal resources and residents in Marina since the proposed slant well field is located within City limits at a site that could otherwise be fully set aside for public access, passive recreation, and coastal resource protection. Residents and City officials also have expressed concern that the Project may have an adverse effect on Marina's groundwater resources, by potentially lowering ground water tables, increasing saltwater intrusion into groundwater aquifers that are sources of drinking water, and impacting the City's wetland and vernal pond areas (addressed in Section IV.G). Further, many expressed deep frustration that although the Project would be located in their community, they receive all of the burdens and none of the benefits that other areas of the Monterey Peninsula and nearby communities would receive.

The City of Seaside is on the southern end of the Monterey Bay, similar in many ways to neighboring Marina, with a modest downtown and housing stock primarily consisting of relatively small, older homes, despite its proximity to the ocean. Just under two thirds of its residents are people of color, nearly a third of individuals experience poverty, and most census tracts in the jurisdiction are low-income communities per AB 1550. Seaside is home to the largest population of African American residents in the Project area or the region. Many Black soldiers came to Seaside for training at Fort Ord, and over time Seaside became a center for African American settlement.[96] Over the years, other people of color and Latino populations have settled in Seaside as well, fostering a

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[94] American Community Survey 2015-2019.

[95] The U.S. EPA describes the National Priorities List (NPL) as sites of national priority among the known or threatened releases of hazardous substances and contaminants throughout the United States and its territories. The NPL guides the EPA in determining which sites warrant further investigations and potential remediation.

[96] https://www.blackpast.org/african-american-history/race-and-color-california-coastal-community-seaside-story/

majority people of color coastal community. Accommodation, food services, and retail are the largest employment sector,[97], which was part of why Seaside was hit hard economically by the military base closures in the 1990s. Seaside residents broadly indicate that they would be impacted by the Project's increased water rates. In addition to Seaside, many households in the Monterey Peninsula already experience housing burden, and the unhoused population has increased in the area. There is an increased need for more affordable housing in the region, but because of water restrictions, this kind of development has generally been significantly constrained.

Castroville is an agricultural area, known in part for artichoke production. Much of its economic activities center around agricultural support services, and many of its residents work directly or indirectly in agricultural production. Farms, farm stands, and restaurants specializing in locally produced food demonstrate the direct connection between growers and consumers. Castroville's population is majority people of color and nearly half the households live in poverty. Although Castroville is less than 3 miles from the coast, the community surrounded by three local highways in the region, agriculture, and private land and does not have any direct coastal access. While the community is small, it has high density of multifamily homes with a number of instances of many people living in close quarters.

The groundwater aquifer system beneath Castroville is the town's main source of drinking water and has been overdrafted by decades of intensive agricultural use. Since 2020, the water needs in this community have become increasingly desperate and the survival of the community is dependent on finding new sources of water, according to the general manager of the Castroville Community Services District (CCSD). Community leaders expressed the need for safe, reliable and affordable source of drinking water for the community amid current concerns from saltwater intrusion as two source wells have already been shut off. The CCSD was able to secure a long-term source of new water through a Return Water Agreement developed during the CPUC's review of Cal-Am's Project in a prior proceeding. Through this agreement, Cal-Am would return a portion of the water it extracts and exports from the Salinas Valley Groundwater Basin back into the Basin via pipeline in the form of reduced-cost potable water for the CCSD.[98] As a result, Castroville would benefit from the Project because the agreement will help to maintain existing water rates of approximately $42.50 per month and provide a secure source of water. Under the Return Water Agreement, additional deliveries toward the return water obligation may go to the Castroville Seawater Intrusion Project which provides recycled water and surface water in lieu of groundwater pumping for agricultural use in the Castroville area. [99]

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[97] Data source from: https://datausa.io/profile/geo/seaside-ca#economy
[98] See CPUC Final Decision 18-09-17, Appendix H.

[99] CPUC No. A-12-04-019, Decision Adopting Settlement Agreements (Sept. 20, 2018), as modified and affirmed February 5, 2019.

The Project will directly affect each of the communities of concern identified in this section in different ways. As mentioned above, the town of Castroville will benefit from a new, secure source of water. The Project is sited within the City of Marina, although it will not receive any water and many of Marina's residents have raised concerns about potential impacts to groundwater, public access, and limiting opportunity for the community's future growth. In the service area, low-income ratepayers throughout the area, including Seaside, will be adversely impacted by water rates. And while there are additional communities of concern that may be affected by this Project indirectly, such as individuals who work in the agricultural industry throughout the Salinas Valley, this staff report is solely focused on those directly affected by the Project. Potential impacts to communities of concern identified above and the Commission's ability to mitigate those impacts warrant additional consideration pursuant to Section 30604(h) of the Coastal Act.

Environmental Justice Coastal Act Analysis

Procedural Concerns

The City of Marina and its residents expressed several procedural concerns regarding the Project. Marina residents said they felt largely excluded from the process prior to the 2020 hearing because they are not Cal-Am ratepayers. This was of particular concern since Marina would experience environmental burdens from the Project being sited in their community while receiving none of the Project benefits, Following Cal-Am's withdrawal in September 2020, executives held several meetings with Marina city officials in 2020 and 2021 but were unable to agree on any community benefits or to gain support for the Project. In mid-July 2022, shortly before Cal-Am submitted information to Commission staff to complete the CDP application, it met with staff to discuss renewed outreach to the environmental justice communities in the area. Cal-Am submitted a detailed outreach and engagement plan with regular updates, names of groups they would contact, and other outreach items. Beginning in August 2022, three months before the Commission's scheduled hearing, Cal-Am proposed and began conducting a total of 12 community meetings in Marina, Seaside, Sand City, Castroville and Salinas. According to Cal-Am, these meetings were advertised on social media, radio and their website. Following these meetings, Cal-Am answered community questions in writing, and then distributed a handout in English, Spanish, Vietnamese and Korean to event participants and posted it on their website.

Despite Cal-Am's efforts, many Marina and Seaside residents expressed frustration about Cal-Am's recent engagement efforts, with some describing them as last-minute and performative. Opponents of the Project, who attended the community sessions, said the events were largely a venue to promote the Project and not a genuine exchange with the community. Some meetings were advertised only days in advance, making it challenging for community members to make arrangements to attend, were at times difficult to find and, in at least one case, the wrong time was posted, as certain community members reported. Cal-Am and the City of Marina continue to remain very far apart.

In response to these concerns and to a request from the City of Marina for greater avenues for public engagement, the Commission agreed to several additional approaches to encourage the widest possible involvement from underserved members of the public in consideration of the current Project. The Commission created an FAQ on the Project in English and Spanish, sent an infographic about the Coastal Commission and how to participate in public meetings that the community could share, and regularly spoke with Marina officials to answer questions and provide guidance on how they could enable community members to testify from Marina City Hall. Cal-Am agreed to provide Spanish interpretation and translation services for the hearing, which will be available to anyone attending in person or over Zoom.

Substantive concerns

Quantitative and qualitative information, along with the lived experience of the community members, is key to understanding existing environmental justice burdens on a community and the potential for new development to inadvertently exacerbate those impacts. As part of the Commission's ongoing commitment to foster meaningful involvement consistent with 30107.3(a) and to increase outreach consistent with its Environmental Justice Policy, staff have engaged with community members and leaders in Marina, Castroville, Seaside and the service area since 2019. In interviews and during a tour of the Project location, residents from these communities shared various environmental concerns and community burdens, providing additional relevant information to consider.

The main substantive issues identified relate to three main areas: 1) increased costs for water, 2) benefits to Castroville's water supply through the Return Water Agreement, 3) environmental burdens that will contribute to cumulative impacts to the City of Marina, including groundwater impacts.

1) Water costs: One of the primary concerns staff heard is the disproportionate burden that low-income ratepayers in Cal-Am's service would experience due to increasing water rates from the construction and operation of the Project. Affordable water is critical for people on limited incomes and is a critical component in the state's Human Right to Water strategy that identifies access to safe, clean, and affordable drinking water as a public health imperative.[100] According to Cal-Am, the average single family customer in the Monterey service area will have a monthly rate increase of approximately $47 to $50 due to Project construction and operation costs once the Project is put into service.[101] This cost increase will occur in addition to any other general rate case increases or surcharges that Cal-Am already has applied for or received approval from the CPUC.

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[100] See State Water Resources Control Board. Options for Implementation of a Low-Income Water Rate Assistance Program at https://www.waterboards.ca.gov/water_issues/programs/conservation_portal/assistance/docs/2019/draft_report_ab401.pdf

[101] Correspondence from Cal-Am to Tom Luster, dated October 27, 2022.

As a result of this Project, rates will increase for all customers in the service area, and higher bills resulting from the proposed desalination facility would disproportionately impact low-income ratepayers, including Seaside and Sand City which have the largest proportion of low-income households among the jurisdictions serviced by Cal-Am. Cal-Am has existing bill assistance programs, including a federal low-income household water assistance program (LIWAHP), a payment arrangement program to set up a payment plan if bills cannot be paid on time, hardship program with the United Way of Monterey County, and its Customer Assistance Program (CAP), which provides a monthly discount of 30% on the fixed service charge for eligible households.[102] Cal-Am reported that as of September 2022, they have enrolled approximately 3,700 customer accounts in their CAP program[103] Enrolled low-income customers in the CAP program have an average monthly bill of $65.74 in 2022 with the discount included. Additionally, they also applied for an increase in the discount its CAP offers for eligible customers, from 30% to 35%, which is still pending approval from the CPUC. While Cal-Am increased enrollment from 5% to 10% among single-family residential customers in the CAP, enrollment is still low. Income-burdened individuals that may qualify face several barriers to enroll and/or meet eligibility requirements.

The eligibility requirements themselves create barriers to access. The CAP program requires customers to be in an individually metered or flat-rate residential customer with the bill in the customer's name. However, many otherwise eligible ratepayers live in multi-family structures, where the water bill is in the name of a landlord or management company and not individually metered. Some landlords of single-family residences that rent to low-income tenants prefer to keep the water and sewer bill in their own name. In both cases, increases in utilities are passed through from the landlord to the tenants, without any options for the tenants to request assistance. While individuals may qualify as low-income based on the standards set by other state-administered assistance programs, they do not necessarily meet the eligibility criteria for Cal-Am's LIWAHP or CAP programs. For example, using an average household of three, state income limits set by Housing and Community Development (HCD) in 2022[104] identifies low-income households with a median household income of below $81,900 and very low-income households with a median income below $51,200 in Monterey County. The LIHWAP threshold for a household of three, however, is a monthly max income of $4,143 or $49,719 per year, which means there are households experiencing housing or rent burden that may not benefit from the program. Similarly, Cal-Am's CAP program income guidelines identifies that a household of three must have a total combined income of $46,060 to meet eligibility requirements.

[102] https://www.amwater.com/caaw/Customer-Service-Billing/customer-assistance-programs

[103] Correspondence from Cal-Am to Tom Luster, dated October 27, 2022.

[104] California Housing and Community Development State Income Limits for 2022 - https://www.hcd.ca.gov/docs/grants-and-funding/inc2k22.pdf

Staff heard from various ratepayers in the area to understand concerns with the Project. Some Seaside residents worry that the economic hardship caused by rate increases will eventually push them out of one of the few remaining affordable coastal communities. Customers voiced the great lengths they have taken to reduce water costs over the years, including using their dishwashers only to air dry dishes, flushing toilets only once a day, taking showers at municipal facilities instead of at home, not washing clothes often, removing gardens, or using graywater for irrigation -- but their bills have continued to increase. Some ratepayers expressed frustration with existing income assistance programs, including difficulty in applying for relief and finding application instructions as well as describing noticing barely any difference in their bills when discounts were applied through the CAP. Additionally, many residents shared with staff concerns regarding the impact of ongoing inflation and housing shortages as compounding pressures affecting the cost of living in the area.

For low-income households experiencing the burden of high housing costs, rampant inflation and economic insecurity, increased water rates could make it infeasible to continue living on the Monterey Peninsula. If an unintended, but foreseeable consequence of the Project is to displace existing residents from their homes in formerly affordable coastal communities, this raises a serious coastal access issue. Although coastal access is typically viewed through the lens of providing and protecting recreational infrastructure and other amenities for the public to visit and enjoy, viewing it through an environmental justice lens illustrates that an affordable cost of living is a fundamental part of coastal access for nearby residents. In this case, Seaside residents' coastal access hinges on their ability to economically survive in their communities. The Commission would not achieve maximum consistency with the Coastal Act's Chapter 3 public access policies if it only implemented these policies to protect the amenities that enhance visitor access to the coast without also considering how permitting decisions might negatively affect community-wide affordability for those living within the coastal zone. Historically, communities of color have been excluded from or driven out of coastal areas by intimidation, exclusionary lending practices, racist covenants, eminent domain, gentrification and other instruments. Because of this troubling history, it is incumbent on the Commission to scrutinize the Project with a focused perspective grounded in this wider context.

Cal-Am and some Project proponents have said this Project will create a new reliable water supply that will help lift the current building moratorium and enable developers to build much needed affordable housing. There has been an ongoing debate about whether the Pure Water Expansion recycled water project will be able to accommodate affordable and market rate housing needs, while also addressing other environmental concerns, including an affordable and reliable water supply and reducing reliance on the Carmel River.

In response to concerns expressed by its income-burdened ratepayers, Cal-Am said that the company "commits to the goal of completely offsetting cost impacts from the desalination facility to low-income customers." In a September 20, 2022 letter to Commission staff (see **Exhibit 4**), Cal-Am modified its proposed Project to include a number of benefits, including:

- Cal-Am will increase its contribution of up to $500,000 to the United Way Monterey's Hardship Benefit Program, which helps customers with impending water-shut offs, and that it would increase outreach to inform customers about the federal LIWAHP.
- Cal-Am will also seek approval from the CPUC for one or more of seven different proposals to achieve this goal of offsetting cost impacts to low-income customers. These proposals range from expanding participation to and increasing the Customer Assistance Program or CAP discount from 30% to 50%, to expanding existing programs to multi-family residences to eliminating bill impacts related to the cost of the proposed desalination facility.[105]

After staff raised concerns that the CPUC process could take years and may not result in an approval for their low-income rate relief plan, Cal-Am proposed to include in its Project two additional benefits (see October 27, 2022 letter and October 31, 2022 email from Cal-Am):

- First, Cal-Am would offer to all ratepayers enrolled in its Customer Assistance Program free installation of low-flow fixtures (sink and bathtub faucets, showerheads, and toilets) that met state efficiency standards.
- Second, Cal-Am would take steps to ensure that any ratepayers enrolled in that Program, once deliveries of desalinated water from the Project begin, would have a rate increase of no more than $10 per month for water provided by the Project for at least five years after those deliveries begin

Cal Am also recommended the Commission include a special condition requiring annual reporting on both these benefits, which is included as **Special Condition 16**.

While these proposals indicate that the applicant will take some measures to address cost burdens, the $10 cost cap for five years will not address the long-term impacts this Project will have on low-income ratepayers and there is no certainty the additional proposals will be approved by the CPUC during this time. Additionally, Cal-Am noted that as of July 2022, the United Way Hardship Benefit Program has already assisted 231 ratepayers with a total benefit payout of $136,209 (average $590 per customer) since it started in 2018. However, without updated cost and rate increase estimates, it is not clear if the additional $500,000 over the course of the Project will be enough to assist ratepayers who may experience financial hardship.

At the hearing, Cal-Am modified its proposal to provide a cap of $10 per month for customers who qualify for Cal-Am's Customer Assistance Program until it implements any CPUC-approved rate relief programs that effectively cap rate increases to no more

[105] Correspondence from Cal-Am to Tom Luster, dated October 19, 2022.

than $10 per month for such customers. To that end, Cal-Am proposes to pursue CPUC approval of one or more rate relief programs to offset the costs of the Project on low-income ratepayers enrolled in the Customer Assistance Program and to expand eligibility requirements for the discount offered by its Customer Assistance Program. Special Condition 16 reflects measures to effectuate these ratepayer assistance proposals.

2) **Return Water Agreement to Castroville Community Services District (CCSD)**
The Project is intended in part to provide up to about 690 acre-feet of potable water at a discounted price to Castroville, which would constitute a benefit to a community of concern. The cost of providing the water would be recovered through ratepayer fees in Cal-Am's service area. In order to address a prohibition against exporting groundwater from the Salinas Valley Groundwater Basin, Cal-Am agreed to provide potable water to Castroville at about $580 per acre-foot. The agreement also contemplates that return water in excess of that provided to Castroville would be directed to the Castroville Seawater Intrusion Program ("CSIP") at a cost of about $110 per acre-foot to help reduce seawater intrusion in the Basin. Without this Return Water Agreement, the Project could not be considered consistent with Basin management requirements, since it would export groundwater to communities throughout the Monterey Peninsula that are outside the Basin boundaries. The prices per acre-foot for Castroville and CSIP would be far less – i.e., no more than several hundred per acre-foot – compared to the $6,100 per acre-foot that Cal-Am's ratepayers are currently expected to pay for water from the Project.[106] This would keep Castroville's water rates at $42.50 per month, while providing a new source of water for affordable housing projects, agriculture, and other types of new development. Depending on the amount of water Cal-Am returns to the Basin, the agreement could partially replenish Castroville's over drafted groundwater basin that has been depleted in part by decades of agricultural pumping. It would also support a community that is in dire need of a reliable water supply.

However, as noted above, the City of Marina claims that recent groundwater modeling shows that the amount of water Cal-Am may need to return to the Basin could be substantially higher than anticipated in the Return Water Agreement. Instead of a relatively steady rate of up to about 700 acre-feet per year, Cal-Am may need to return up to two or three times that amount during years with higher recharge to the Basin.[107] This could represent about a third of its desalination facility's overall production volume and would likely result in substantially higher costs for Cal-Am or its customers to subsidize. If Cal-Am was to obtain CPUC approval of additional rate recovery for these increased expenses, it would represent an even greater burden on all of Cal-Am's ratepayers and especially members of communities of concern.

[106] As stated in CPUC Proposed Decision in Proceeding No. A-21-11-024 (modified October 31, 2022).

[107] As noted in Section IV.F above, the Hydrogeologic Working Group, which conducted the previous modeling, concurs that this range of potential return water requirements is reasonable.

In its decision approving the Return Water Agreement, the CPUC acknowledged that higher return water percentages could affect rates. To address this risk, it required Cal-Am's shareholders, not ratepayers, to pay excess costs if return water obligations exceeded certain percentages.[108] However, in that same decision, the CPUC acknowledged that return water amounts could vary and that the CPUC could revisit the issue, and Cal-Am's rates, in the future as necessary. This issue is addressed in part through **Special Condition 12**, which require Cal-Am to conduct comprehensive monitoring that will detect the amounts of groundwater subject to the Return Water Agreement provisions and to modify its operations if necessary to reduce any of several groundwater-related impacts.

In summary, Castroville residents would get a discounted rate on the desalinated water, providing an important benefit for the community experiencing a water crisis. The discount, however, could result in higher rates for Cal-Am ratepayers, including low-income ratepayers throughout the service area.

3) **Cumulative Environmental Impacts**
The Project will result in environmental impacts in the City of Marina's coastal zone that will increase the overall cumulative environmental burdens in the area. The City of Marina and many of its residents believe the Project will create environmental burdens for their community but provide no benefits. The Project's slant wells will be placed within the shuttered CEMEX sand mining property in Marina's coastal zone and would affect several acres of beach and dune habitat that currently supports a variety of rare or sensitive plant and animal species. Marina is already located near several industrial uses both within and outside of the coastal zone. According to CalEnviroScreen data, Marina ranks highly compared to other tracts in the state for groundwater threats, impaired water, solid waste, pesticides, and cleanup site (see Table 3 below and **Exhibit 9**). Within the coastal zone, industrial uses include the former CEMEX sand mining site. Some community members are concerned that access to the site would be partially lost due to limitations Cal-Am may impose around its well field (Section IV.M of these Findings provides a review of the Project's effects on public access). Although Marina has about four miles of shoreline, it currently has just two points of public access along that stretch of coast. While the Project's adverse effects on public access are likely to be relatively limited, they would affect Marina residents' ability to fully access this section of the coast. As part of its proposed benefits package, Cal-Am offered to provide access around its Project, but Marina officials said it preferred a cohesive network of trails, which they believed would be more achievable through restoration and access requirements under the 2017 Settlement Agreements to which CEMEX, the

[108] As the CPUC noted in that decision, "[i]t is reasonable to require Cal-Am shareholders, not ratepayers, to incur any and all costs for any unreasonable portion of the return water obligation that is greater than an average of approximately six percent (6%) between years 0-7; four percent (4%) between years 8-15; or 1.5% annually from year 16 forward. The Commission may also look at the reasonableness of the return water amount and costs to ratepayers at other times as necessary to ensure the return water obligation being met is reasonable and consistent with the estimates provided in the proceeding to support approval of the MPWSP." CPUC No. A-12-04-019 (Sept. 20, 2018).

Coastal Commission, the City of Marina and the State Lands Commission are collectively signatories.

Table 3: SB 535 Disadvantaged Community Census Tract 6053014102 (Marina) Selected CalEnviroScreen Indicators

Demographic Indicators	Percentile Relative to State
Linguistic Isolation	62[109]
Poverty	72
Unemployment	46
Housing Burden	68
Environmental Indicators	Percentile Relative to State
Pollution Burden	78
Pesticides	78
Drinking Water	61
Cleanups	81
Groundwater Threats	87
Impaired Water	95
Solid Waste	78

Outside of the coastal zone, existing industrial facilities near Marina include a regional wastewater treatment plant, the Marina Municipal Airport, and Monterey Regional Waste Management District facility, which includes a landfill, materials recovery facility, food and yard waste composting facilities, a landfill gas-to-energy conversion facility, and a hazardous waste collection site (see Figure 1, **Exhibit 9a**). Marina is also near the former Fort Ord military base, which is on the Superfund National Priorities List. While Cal-Am's slant wells will not result in the level of pollution as existing facilities, this Project would be one more industrial development in a community already dealing with the cumulative impacts of a disproportionate number of industrial facilities.

[109] The data for all indicators are from CalEnviroScreen 4.0 except linguistic isolation, which is from CalEnviroScreen 3.0 because it was unavailable for this tract in CalEnviroScreen 4.0.

The City of Marina and its residents also are concerned about the potential impacts of the proposed slant wells on their own aquifer and groundwater supply, as described in Section IV.F. The City has opposed the Project, due in part, to its view that impacts would be extensive enough to impact its current and future groundwater supply of drinking water and because officials believe it could require the construction of new water supply facilities. In certifying the FEIR/FEIS in 2018, the CPUC rejected that argument.[110] In 2020, the City filed a lawsuit against Cal-Am asserting these claims and that lawsuit is pending. In that case, the trial court referred a series of technical issues to the State Water Resources Control Board's Administrative Hearing Office, and that proceeding is also pending.

Based on what Cal-Am heard during community meetings held between August 2022 and October 2022, it modified its Project description to include a wide range of benefits to help off-set burdens to Marina. As described in letters from Cal-Am (see **Exhibit 10**), these include increased groundwater monitoring, property tax revenues, a public access plan, and habitat mitigation on the Cemex site, as well as an offer of $1 million in funding for improved public access, public facilities and recreational opportunities and restoration for the City, though it did not specify how this amount to help off-set impacts from the construction of the $419 million Project was determined. At the November 17, 2022 hearing, Cal-Am increased its offer to the City from $1 million to $3 million for implementation of these amenities.

City officials had issues with many of these proposals. They indicated that increased monitoring would not be necessary if not for the Project, and the economic benefits were vague and not guaranteed. In addition, Marina officials said the proposed public accessway could undermine the City's desire for a cohesive network of trails on the entire site. As noted above, there are Settlement Agreements in place which require that the Cemex property be sold to a public access agency (subject to the pre-existing easement on the site that Cemex previously recorded in favor of Cal-Am), which will eventually address the roughly 400-acre site. Finally, Cal-Am had also originally proposed a habitat mitigation and monitoring plan that proposed to restore 105 acres of habitat at the CEMEX site. Marina officials, however, pointed out that the Cemex property is already covered by a conservation easement and much of it was already being restored. As described previously, the full scope of final implementation of the Cemex Settlement Agreement and resolution of the underlying violation is undetermined at this point in time. Under **Special Condition 10**, if Cal-Am proposes any restoration work on the CEMEX site as mitigation for habitat impacts, it would have to demonstrate that this work is above and beyond any restoration and benefits that result from the CEMEX settlement.

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[110] CPUC No. A-12-04-019, Decision Approving a Modified Monterey Peninsula Water Supply Project, Adopting Settlement Agreements, Issuing Certificate of Public Convenience and Necessity and Certifying Combined Environmental Report, Decision, September 13, 2018, as modified and affirmed in D. 19-01-051 (February 5, 2019).

Cal-Am also stated that they would be willing to revisit earlier benefits they offered following their 2020 withdrawal, which included annual payments based upon an agreed formula such as revenue generated by the Project, long-term funding for Western Snowy Plover protection, enhanced fire flows, potential optioning or selling Marina one or more source water wells and providing potable water on an emergency basis. For its part, Cal-Am officials said they tried to engage with Marina city officials more recently to get their input on all these potential benefits, but officials continue to oppose the Project and declined any discussions.

Nonetheless, to ensure that the benefits Cal-Am recently offered to Marina as part of its Project are implemented consistent with relevant Coastal Act and LCP provisions, **Special Condition 17** requires Cal-Am to submit, for Executive Director review and approval, a Public Access and Amenities Plan that will result in benefits to the City's residents. It requires first that Cal-Am provide a Community Engagement Plan describing measures Cal-Am will take to engage with representatives and residents of the City to develop the Public Access and Amenities Plan. The Community Engagement Plan is to increase accountability and ensure include outreach to various populations within Marina, provide a schedule for community meetings, and identify measures that will allow interested residents to participate. This Plan is to lead to development of the Public Access and Amenities Plan, which will identify the selected amenities to be implemented using Cal-Am's offer of $3 million and is to include an implementation plan to ensure the amenities are put in place for benefits of the City's residents. While this Special Condition is not expected to eliminate the burdens identified by the City and its residents, it will provide assurance that Cal-Am will provide benefits to the community based on the preferences of the residents with potential to be affected by the Project.

Conclusion

The Project has become extraordinarily controversial, involving some of the most significant environmental justice concerns the Commission has considered since it adopted an Environmental Justice Policy in 2019. There is a long history of government institutions not giving low-income communities and communities of color adequate consideration in the decision-making process, even when it comes to the welfare of their own communities. Here, a historic drought has swept across California, increasing pressure for new sources of water in a region already struggling with longstanding, critical water shortages. This has resulted in a project with range of benefits and burdens to nearby environmental justice communities that need affordable water but are also often the site of unwanted industrial development. Cal-Am said it has tried to resolve these concerns through increasing outreach to get greater input from nearby communities of concern. Cal-Am updated the Project description to include measures designed to alleviate impacts to low-income ratepayers, and they put together a package of benefits for Marina, which were largely rejected by the City. Further, Cal-Am's proposed changes and **Special Conditions 16** and **17** provide additional measures to offset adverse impacts and ensure accountability. Even so, these efforts have not resolved all the environmental justice issues related to this Project, which remain contentious.

J. TRIBAL CONSULTATION

The Commission in 2018 adopted a Tribal Consultation policy meant to help establish meaningful and respectful consultation with California's Tribal governments and representatives. The policy includes several guiding principles regarding communication with the Tribes, acknowledgment of Tribal interests and resources, and how to assess the effects Commission actions may affect Tribal interests.

During the Project's CEQA review, the CPUC requested information from the Native American Heritage Commission ("NAHC") regarding potential tribal cultural resources that the Project might affect. The NAHC did not identify any such resources, though provided a list of Native American contacts that might have additional information about such resources. The Project area is within the traditional lands of the Ohlone/Costanoan-Esselen Nation.

Commission staff initiated formal tribal consultation consistent with the Commission's Tribal Consultation Policy. Coastal Commission staff reached out to nine tribal representatives by email and telephone for the purpose of consultation and coordination. Staff received responses from two tribes and held consultation meetings via Zoom with representatives of the Indian Canyon Band of Costanoan Ohlone People and the Ohlone Costanoan Esselen Nation.

On October 3, 2022, staff met with cultural representative Kanyon Sayers-Roods from the Indian Canyon Band of Costanoan Ohlone People, whose ancestral lands are adjacent to the Project site. Indian Canyon is 15 miles south of Hollister, in the Gavilan mountain range. This area is the only federally recognized land between Sonoma and Santa Barbara, and the area has been sacred land for Ohlone/Costanoan people since time immemorial, according to the tribe's website. During the 1700 and 1800s, Indian Canyon served as a safe haven for the local indigenous peoples who traversed the territory to escape the Spanish Missions and remains a place where Indigenous peoples in need of land can go for ceremony.

During staff discussion, Sayers-Roods said she had not taken a position on the Project and had not heard from Cal-Am. She was broadly concerned about with desalination in general, particularly with regards to the impact on the ocean. Sayers-Roods said she wanted to learn more about potential brine discharge from the proposed Cal-Am facility and its potential impact to local marine ecology and culturally sensitive marine plants. She also requested that Cal-Am provide a list of community benefits, a land acknowledgement, access to traditional sacred lands, and ensure the protection of cultural resources for the tribes of the region. **Special Condition 18** requires Cal-Am to have approved monitors on site for any ground-disturbing activities that may affect Tribal cultural resources.

On October 7, 2022, staff met with Chairwoman Louise Miranda Ramirez of the Ohlone Costanoan Esselen Nation or OCEN, on whose ancestral land the Project is proposed for. Currently, the Nation represents over 600 enrolled tribal members of Esselen,

Carmeleno, Monterey Band, Rumsen, Chalon, Soledad Mission, San Carlos Mission (Carmel) and/or Costanoan Mission Indian descent from at least 19 villages from a contiguous region surrounding Monterey Bay, according to the Nation's website. Chairwoman Miranda Ramirez felt it was important to share that their tribe has proof of their genealogy and that each OCEN member must certify their genealogy to core families from Mission documents. In 1852, ancestors of the Nation were identified as the San Carlos Band at Carmel Mission and in 1906 the Chairwoman's great grandfather and family were identified as landless Indians from the Monterey Band of Monterey at the Sur Rancheria by Special Indian Agent C.E. Kelsey.

Chairwoman Miranda Ramirez said she is opposed to the Project and has deep concerns about Cal-Am due to an earlier experience with the company in 2020, when an archaeologist and two OCEN tribal monitors, Alexandria Casares and Michael Sandoval, were on-site during one of Cal-Am's construction projects in Pacific Grove. The Chairwoman said a Cal-Am supervisor announced to workers that they could not resume their work until "the Indian returns from the bathroom." The monitors immediately contacted the Chairwoman, who reached out to the City of Pacific Grove and requested an emergency meeting with Cal-Am about the remarks and offered free cultural sensitivity training. She stated that she did not hear back from Cal-Am until October 2022, when she received two phone calls and two emails from company representatives including the president and vice president of the company. In an October 25, 2022 email, a Cal-Am employee referenced the earlier incident, let the Chairwoman know that the Project would be coming before the Coastal Commission and asked if she would be open to discussing cultural training for all Cal-Am Project managers and contractors working on the project. The Chairwoman was offended. "They don't respect Native people, they didn't care about the process when we offered them a process," she said. "Now that they have a project, they want me (OCEN) on their side."

In response to the Chairwoman's statements, Cal-Am President Kevin Tilden sent a November 7, 2022 letter to Commissioners calling the 2020 incident "extremely concerning." He said the company conducted an internal investigation at the time and said the statements were not made by a Cal-Am employee but a contracted inspector, who was later removed from the Project. The day after the incident, he said the company held a mandatory half-day meeting where the Chairwoman conducted a sensitivity training. Mr. Tilden added that they have been trying to contact her since July 2022 to address any concerns she and the Nation may have about the proposed Project. In the Commission's subsequent consultation with the Chairwoman, she said that she stands by her statement that the supervisor was a Cal-Am employee. She indicated that she, not Cal-Am, called for the meeting after the 2020 incident and it was not a half day cultural sensitivity training, but a 20-minute talk with the workers about the Nation's history, the monitors, their role on site and the importance of being on the site. She said that she offered to give a cultural sensitivity training to all Cal Am employees but did not hear back from the company until recently.

Chairwoman Miranda Ramirez indicated the tribe's complete opposition to desalination and the Project. She said the CEMEX sand mining operation already degraded their ancestral land and they believe desalination is deeply destructive for the ocean and surrounding environments. The tribe's main concern is in relation to the brine and wastewater outfall into the ocean, in part because their tribal community members continue to practice traditional seaweed harvesting methods and fishing in this region. The Project area is also cited near an area that is sacred to the Nation because their ancestral remains are there. Historically, the Nation has lost access to coastal areas, which prevents them from practicing their cultural traditions, she said. While she does not want to see the Project approved, if it is allowed to move forward their Nation is interested in recovering any cultural resources and artifacts discovered, as well as gaining access to relevant archaeological reports and having Tribal monitors on site. **Special Condition 18** is meant to address this concern.

For its part, Cal-Am said they reached out to 27 tribal representatives and members to participate in an in-person meeting in Sand City on July 21, 2022, of which four attended. The company said participants expressed concern about the health of the Carmel River. In October, Cal-Am received letters of support from Pajaro Valley Ohlone Indian Council Chair Patrick Orosco and Chumash Tribal member Mary Anne Carbone. The identical letters say the signatories are tribal leaders "representing Monterey County's Native American Tribes." The Native American Heritage Commission does not include the Pajaro Valley Ohlone Indian Council Chair Orosco in its 2022 list of tribes and staff was unable to verity if he had permission to represent multiple tribes in the Monterey area. Carbone later clarified that she was representing Monterey's Chumash community members, not the tribe. Commission staff acknowledges and honors that the Chumash community in the area represents a broad and diverse array of tribal affiliations. Staff was unable to verify whether Carbone had permission to speak for other Chumash community members and defers to the individual tribal leaders to speak on behalf of their members.

K. PROTECTION OF MARINE LIFE AND COASTAL WATERS

Coastal Act Section 30230 states:

> 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.

Coastal Act Section 30231 states:

> 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.

Coastal Act Section 30233 states, in relevant part:

> (a)The diking, 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, and shall be limited to the following:
> (1) New or expanded port, energy, and coastal-dependent industrial facilities…

LCLUP Policy 16:

> To insure the protection of marine resources for long-term commercial, recreational, scientific and educational purposes.

LCLUP Policy 17:

> To insure protection and restoration of the ocean's water quality and biological productivity.

Intake effects
Cal-Am has specifically selected subsurface slant wells to obtain source water for its proposed desalination facility. The state's Ocean Plan includes provisions applicable to seawater desalination facilities that require, where feasible, that those facilities use wells or other types of subsurface intakes instead of open water intakes to avoid the adverse entrainment and impingement effects on marine life caused by open water intakes.[111] Staff of the Central Coast Regional Water Quality Control Board has determined that Cal-Am's proposed slant well system meets the Ocean Plan requirement that the proposed Project's intakes constitute the "best intake technology feasible to minimize the intake and mortality of all forms of marine life."[112]

Cal-Am's proposed slant wells would extend under coastal dunes and the beach to reach offshore about 200 feet beneath the Monterey Bay seafloor. From that location, they would extract primarily seawater from the underlying substrates. Cal-Am's hydrogeological modeling of the site and its proposed well operations show that the pumping would induce seawater to be drawn into the wells through the overlying sand and sediments. Due to the depth of the wells, the relatively large area from which they would induce this drawdown, and the maximum pumping rate of each well of about 2,500 gallons per minute, the seawater would be drawn through the seafloor at an essentially undetectable rate, so any effects that might occur to marine life in the overlying ocean water column or benthic habitat would be imperceptible.[113]

Discharge effects
Cal-Am would direct the brine and other effluent from its desalination facility through an existing outfall owned by M1W. The outfall is currently used to discharge treated wastewater from Monterey One's regional wastewater treatment facility in northern Monterey County to about 11,000 feet offshore in Monterey Bay. The outfall terminates at a diffuser that is about 1,000 feet long and that has over 100 ports through which the discharge reaches ocean waters.

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[111] Entrainment occurs when small organisms, such as plankton, fish eggs, larvae, etc., are pulled into an open-water intake. It results in essentially 100% mortality due to the organisms being subjected to filters and high pressures within the facility's pre-treatment or treatment systems. Impingement occurs when larger fish or other organisms are caught on an intake's screening system and are either killed or injured.

[112] See January 15, 2019 letter from John Robertson, Executive Officer of the Central Coast Regional Water Quality Control Board to Coastal Commission's Tom Luster regarding Cal-Am's conformity to Ocean Plan provisions Chapter III.M.2.b and III.M.2.d(1) and Water Code section 13142.5(b) regarding intakes.

[113] See State Water Resources Control Board, Water Quality Control Plan – Ocean Waters of California, revised 2019. Available at: https://www.waterboards.ca.gov/water_issues/programs/ocean/docs/oceanplan2019.pdf (accessed August 10, 2020).

Cal-Am would first route its effluent from its facility to an approximately three-million-gallon mixing tank to be built at the wastewater treatment facility where it would blend with treated wastewater before being discharged through the outfall. The rate of treated wastewater discharge through the outfall varies significantly over the course of a year – from close to zero gallons per day during the summer months when much of it is recycled to provide irrigation water for area agricultural operations during the growing season to up to about 17 mgd in the winter. With the desalination facility's expected production capacity of 6.4 mgd of potable water, it is expected to contribute about 10 mgd of brine to these discharge flows. During the facility's first production phase of 4.8 mgd, the effluent volumes would be about one-third less. Depending on the time of year, those volumes would represent anywhere from about one-third to 100% of the volume of combined desalination and wastewater effluent conveyed through the outfall.

The treatment facility's discharge is currently regulated through a National Pollutant Discharge Elimination System ("NPDES") permit that would need to be amended to allow Cal-Am to use the outfall for its discharge.[114] Regional Water Board staff is currently reviewing Cal-Am's proposed discharge to determine what requirements are needed to ensure that the characteristics of the combined discharges under the various flow regimes would meet water quality objectives and be protective of water quality and marine life. Regional Water Board staff is also reviewing what measures are needed for the discharge to be consistent with the state's Ocean Plan Amendment applicable to discharges from seawater desalination facilities.

In its CEQA review, the CPUC evaluated potential operational impacts on marine biological resources from discharge of brine generated at the proposed desalination facility. The FEIR/FEIS identified the potential impacts from elevated salinity or other constituents in the brine or from shear stress on plankton from discharged brine. It found that increased salinity would meet Ocean Plan water quality objectives at the edge of the brine mixing zone and would not affect marine habitat by reducing dissolved oxygen content (hypoxia). The FEIR/FEIS found that for certain other constituents in the brine for which there was not adequate data, it was appropriate to require monitoring as a conservative measure to be more protective. The FEIR/FEIS also concluded that any impacts due to shear stress caused by the brine discharge would be less than significant and noted that the Regional Board would be conducting a review to determine the Project's conformity to the state Ocean Plan provisions applicable to seawater desalination facilities. The FEIR/FEIS concluded that Project operation would not have substantial adverse effect on any marine biological resources including special-status species, would not cause a fish or marine wildlife population to drop below self-sustaining levels and would not interfere with the movement of any native marine resident or migratory fish or marine wildlife species.

[114] Order No. R3-2018-0017, approved on December 6, 2018 by the Central Coast Regional Water Quality Control Board, acknowledges that Monterey One Water anticipates discharging Cal-Am's brine waste through its outfall, but states that Monterey One Water will need to submit a new application for the Board's consideration and approval prior to any such discharge.

One potential requirement still being evaluated is whether Cal-Am or M1W would need to modify the outfall's existing diffuser to ensure that the expected salinity concentrations from both the stand-alone brine discharge and the combined brine and treatment plant discharges conform to the Ocean Plan standard that requires seawater desalination facility discharges into ocean waters not exceed two parts per thousand over natural background salinity levels as measured no further than 100 meters from the discharge points.[115] Modeling conducted to date shows that this distance would likely be much smaller for the Project, with the 100% brine discharge expected to meet this salinity standard just a few dozen feet from the discharge points, well within the allowable distance. However, Cal-Am or M1W may need to modify the diffusers so that the effluent is discharged at a higher angle to ensure that it does not contact the seafloor at times when it is more highly saline than ocean water so as to avoid impacts to benthic marine life in the area.

> The discharge would also be limited in its allowable concentrations of other constituents, such as metals, dissolved oxygen, and various contaminants. The FEIR/FEIS identified potential exceedances of several contaminants under certain operational scenarios and uncertainty about whether some constituents would meet the necessary Ocean Plan objectives.[116] In the CPUC's prior proceeding certifying the FEIR/FEIS and issuing a certificate of public convenience and necessity for the Project, the CPUC approved a settlement agreement (the "Brine Discharge Settlement") between Cal-Am and various other parties addressing future discharges into the marine environment from the desalination operations. That settlement agreement creates standards and conditions for the collection of water quality data to ensure compliance with defined water quality standards. It also requires mitigation and corrective action if the Project is not in compliance with salinity standards. The Brine Discharge Agreement was also addressed in the CPUC's CEQA review, and the CPUC found the settlement agreement to be consistent with the CEQA findings. The Regional Board review is expected to address these water quality-related aspects of the Project and to incorporate these monitoring data into its evaluation to ensure that the discharge is consistent with these requirements. To ensure the Project is consistent with the Ocean Plan, the CPUC imposed Mitigation Measures 4.3-4 and 4.3-5. Mitigation Measure 4.3-4 requires Cal-Am to implement a monitoring and reporting program that will ensure that operational discharges from the Project are in compliance with applicable Ocean Plan water quality objectives and salinity standards. As a further precaution, Mitigation Measure 4.3-5 prevents Cal-Am from discharging effluent into coastal waters until it can demonstrate that it has implemented outfall modifications, operational changes, or other measures to ensure compliance with Ocean Plan water quality

[115] Natural background salinity in ocean water generally ranges from about 30 to 35 parts per thousand.

[116] The FEIR/FEIS noted that under certain operating scenarios, the project could result in exceedances of water quality standards for ammonia and cyanide, along with possible exceedances for up to 10 other constituents of the brine discharge.

> objectives. Potential operational changes include modifying the treatment methods, treating the discharges before they are routed to the outfall, or augmenting the flows to increase dilution prior to discharge (although the Ocean Plan Amendment generally prohibits flow augmentation for seawater desalination discharges). Potential design changes include retrofitting the existing diffuser system to allow additional dilution of the discharge, which would involve adding one or more additional structures to the existing outfall. The FEIR/FEIS described these changes to the diffuser as the most effective and reasonable strategy for ensuring compliance. Some of these potential changes are internal to the treatment process, but others, such as potential outfall modification, could result in additional development. **Special Condition 1** requires Cal-Am to submit the Regional Board's final determination prior to issuance of this CDP. If the Regional Board requires Cal-Am to make any significant structural or operational changes, or identifies impacts requiring mitigation not evaluated under this review, **Special Condition 1** also requires Cal-Am to obtain authorization through a CDP amendment prior to issuance of the CDP.[117]

While it is unclear which of these structural changes might occur for purposes of NPDES and Ocean Plan compliance, M1W has already determined that the outfall must be modified in several specific ways to accommodate the relatively corrosive effluent from Cal-Am's facility. Along with requiring that a liner be installed along the upland portions of the outfall, M1W expects that new corrosion-resistant clamps will need to be installed. Although these clamps would be inside the outfall, installation would involve activities on the beach and possibly within coastal waters, with work expected to involve heavy equipment in those areas, including a generator, a 20-foot container box for equipment storage, a staging and work area, temporary fencing, and possibly excavation around the outfall's existing junction box on the beach. The work would also require installation of a bypass line that would reroute outfall flows around the junction box for the expected six- to eight- week work window. Should the work be implemented as described, **Special Condition 3** requires a number of Best Management Practices to avoid and minimize potential impacts to marine life and water quality – for example limitations on fueling equipment near coastal waters, minimizing the construction area needed to the extent feasible, and others. **Special Condition 4** provides that Cal-Am will develop a Spill Prevention and Response Plan to avoid and minimize the potential for spills or releases of hazardous materials and to ensure there is an adequate response if these events occur. Because this area is within known critical habitat used for breeding, nesting, and foraging by Western Snowy Plover, **Special Condition 5** prohibits construction activities during breeding and nesting season unless otherwise allowed by the U.S. Fish and Wildlife Service ("USFWS"), in which case, Cal-Am would need to seek an amendment of this coastal development permit if the USFWS approval results in changes to the Project not evaluated in this permit.

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[117] Additionally, the project's FEIR/FEIS includes Mitigation Measure 4.3-5, which is meant to ensure that the discharge meets the relevant standards. This mitigation measure prevents Cal-Am from discharging brine into coastal waters until it can demonstrate that it has implemented any measures needed to ensure compliance.

Other expected inwater work is installation of several monitoring buoys offshore near the outfall diffusers that the Regional Board is likely to require to ensure the Project's discharge is conforming to Ocean Plan requirements. The monitoring to be conducted would establish baseline conditions prior to the start of the discharge and then provide data regarding conditions during Project operations. Cal-Am's currently proposed plan includes installing four buoys to be located at different distances from the outfall to measure salinity and other water quality parameters. The buoys would include a seafloor anchor, a package of sensors, floats, and other equipment, all of which would extend about ten feet above the seafloor. Cal-Am would also install a telemetry buoy consisting of a seafloor mooring, ballast chain, a cable riser, and necessary instrumentation, which would extend through the water column to the water surface. The buoy would transmit data from the other buoys to allow near real-time monitoring.

Any of these Project aspects – a potential diffuser retrofit, the expected buoy installation, or the clamp replacement – would involve placing fill in coastal waters in the form of new or modified structures. As discussed above, the outfall modifications necessary for the Project are not part of this CDP application because the outfall is the subject of a prior CDP issued to M1W, which operates the outfall. That CDP would need to be amended in the future; nonetheless, the Commission is evaluating the impacts of the outfall modifications in this review to be comprehensive.

Pursuant to Coastal Act Section 30233, any fill of coastal waters is allowed only if it meets a three-part test: 1) that there is no feasible less environmentally damaging alternative, 2) that feasible mitigation measures have been provided to minimize adverse environmental effects, and 3) that it be for certain specified purposes, including a new or expanded port, energy, or coastal-dependent industrial facility. The two tests related to alternatives and mitigation are similar to tests found in Coastal Act Section 30260, which are discussed in Section IV.P of these Findings. As also discussed in Section IV.P, the proposed project is a coastal-dependent industrial facility. As such, the fill is for a use allowed under Section 30233 if there is no feasible less environmentally damaging alternative and where mitigation measures have been provided to minimize adverse environmental effects.

As discussed in Section IV.P, with respect to the Project overall, there is no current alternative that can provide a reliable supply of water in the longer term. Although the Pure Water Expansion is likely to meet demand in the near term, the addition of the Expansion project alone is not sufficient to meet demand over the next twenty years. Moreover, through conditions imposed in this permit, the Project's impacts have been mitigated to the maximum extent feasible.

As to fill components of the Project, the FEIR analyzed the seal clamp and diffuser components of the outfall modifications. The FEIR required the replacement of the seal clamps as mitigation to address increased corrosion of the outfall. (FEIR at 5.5-267.) Related to the diffuser, the FEIR noted MBNMS guidelines for desalination plants, which specify that project proponents should evaluate the use of measures to minimize

impacts from desalination plant discharges, including diffuser modifications. (FEIR at 5.3-4.) The new diffuser that would be part of the outfall modifications would help to dilute brine.

The FEIR also found that, with mitigation measures, "secondary impacts from construction relating to retrofitting the existing outfall . . . would be less than significant" and would be "short in duration and low intensity and [that] benthic communities would likely recover to baseline conditions." (FEIR at 4.3-109.) The FEIR noted that construction plans would be required as mitigation to ensure that any disturbances to benthic communities are minimized or avoided. In addition, the Commission believes that the FEIR's conclusions regarding physical impacts from the outfall discharge apply similarly to any impacts from the buoy in that they would be less than significant. The buoys would be anchored with a single mooring attached to a small (two- to three-square-foot) concrete anchor on the largely sandy bottom seafloor in this area. As with shear impacts associated with the outfall discharge, the buoy would likely not have substantial adverse effect on any marine biological resources. Moreover, any impacts could likely be avoided or minimized through the implementation of appropriate construction plans or other measures. The expected impacts associated with installing or modifying these offshore outfall components would be similar to other offshore construction projects for which the Commission requires measures such as construction Best Management Practices, approval of an anchoring plan showing that sensitive benthic habitats are avoided, spill prevention and response plans, and other similar requirements.

The Commission also finds that there are no feasible alternatives to these fill components, which would be necessary either to address corrosion from the brine discharge or to monitor discharges for water quality purposes. Thus, the Project meets the tests set out in Section 30233."

Conclusion

Based on the analyses and Special Conditions described above, and because the Project would be required to meet water quality objectives and be protective of water quality and marine life, per state Ocean Plan standards, the Project can be found consistent with Sections 30230 and 30231.[118] Based on the analyses provided above, the Commission finds that the Project conforms to relevant provisions of Section 30233.

[118] The Commission would also defer to the Regional Water Board with regard to effluent limitations (see Coastal Act Section 30412), though if the Board required changes to the outfall, it might trigger the need for a CDP amendment or new CDP to address those changes.

L. ENERGY CONSUMPTION & CLIMATE CHANGE

LCP Policy 39 states that the City's intent is:

> To encourage development which keeps energy consumption to the lowest level possible.

Coastal Act Section 30253 states, in relevant part:

> New development shall do all of the following:
> …
> c) Be consistent with the requirements imposed by an air pollution control district or the State Air Resources Board as to each particular development.
>
> d) Minimize energy consumption and vehicle miles traveled.

Constructing and operating major water, energy, telecommunication, and transportation projects can use a significant amount of energy, thereby significantly increasing emissions of greenhouse gases ("GHGs").[119] These emissions exacerbate climate change caused by global warming, which, in turn can cause significant adverse impacts to coastal resources of California. The Coastal Act has a number of provisions that provide authority to take steps to reduce causes and effects of climate change and to adapt to the effects of global warming. These include the Coastal Act's public access and recreation policies (Sections 30220 and 30211), marine resource and water quality policies (Sections 30230 and 30231), the environmentally sensitive habitat area protection policy (Section 30240), and the coastal hazards policy (Section 30253(1) and (2)). Further, Section 30253 requires, in part, that development be consistent with the state's air pollution control requirements and that it minimize energy consumption.

The state has long recognized the threats of climate change and the importance of taking steps to reduce those threats. In 2006, for example, the California Legislature adopted the state's 2006 Global Warming Solutions Act and found:

> Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems. (California Health & Safety Code, Division 25.5, Part 1).

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[119] Greenhouse gases are any gas, both natural and anthropogenic, that absorbs infrared radiation in the atmosphere and include water vapor, carbon dioxide (CO2), methane (CH4), and nitrous oxide (N2O). These greenhouse gases lead to the trapping and buildup of heat in the atmosphere near the earth's surface. Carbon dioxide is the major anthropogenic greenhouse gas. All greenhouse gases are quantified collectively by the carbon dioxide equivalent ("CO_2e"), or the amount of CO2 that would have the same global warming potential, when measured over a specific time period.

Climate change covers a broad range of impacts that can occur due to GHG emissions, such as increased sea level rise, changes in the frequency, intensity or occurrence of heavy precipitation and droughts, changes in the frequency and intensity of extreme temperature events, and changes in ocean water chemistry. California's and the Coastal Commission's current guidance documents – *Rising Seas in California: An Update on Sea-Level Rise Science*, the *State of California Sea-Level Rise Guidance: 2018 Update*, and the Commission's *Sea Level Rise Policy Guidance* – build on several previous assessments and projections[120] that describe and recognize that within the coming century potentially severe impacts will likely occur in the areas of sea level, water resources, agriculture, forests and landscapes, and public health. Many of these effects will impact the coastal zone and resources specifically protected by the Coastal Act, including impacts to air quality, species distribution and diversity, agriculture, expansion of invasive species, increase in plant pathogens, alteration of sensitive habitat, wildfires, rising sea level, coastal flooding, and coastal erosion. In addition, absorption of carbon dioxide by the ocean leads to a decrease in ocean pH with concomitant consumption of dissolved carbonate ions, which adversely impacts calcite-secreting marine organisms (including many species of phytoplankton, zooplankton, clams, snails, sea stars, sea urchins, crabs, shrimp, and others). The most direct impacts of global warming focused on the coastal zone are sea level rise and its associated impacts, ocean warming, and ocean acidification.

Expected Direct and Indirect CO_2e Emissions

Cal-Am's Project would result in direct GHG emissions during Project construction, primarily due to use of motorized equipment, and would result in ongoing indirect GHG emissions during facility operations due to its use of purchased electricity. The FEIR/FEIS calculated expected construction-related emissions based on the presumed equipment use over a 24-month construction period. It determined that total direct construction emissions would be about 13,680 tonnes CO_2e, which when annualized over the then-expected 40-year Project life, would equal about 342 tonnes CO_2e per year.[121] If the Project was to operate for just the 25-year expected operating life of the slant wells, its annualized emissions would be about 547 tonnes Co_2e per year. This does not include emissions that would result from the required installation of the outfall liner described above, which would make these total and annualized emissions somewhat higher.

[120] See, for example, California's 2006 Climate Change Impacts Assessment, 2009 Climate Adaptation Strategy and 2013 Indicators of Climate Change in California reports and reports by the Intergovernmental Panel on Climate Change (IPCC Reports in 1990, 1995, 2001, 2007 and 2013) and various climate research centers (such as the Pew Center on Global Climate Change and the Heinz Center), and the Commission's own 2015 Sea-Level Rise Policy Guidance.

[121] Note: Standard guidance for air districts includes annualizing construction emissions over the expected operating life of the project.

Regarding Project operations, the full-scale 9.6 mgd Project originally considered by the CPUC would be expected to use approximately 63,000 megawatt-hours of electricity per year, which would be an increase of almost 52,000 megawatt-hours per year over Cal-Am's existing baseline electrical use for its water portfolio (based on the 2015 baseline used in the FEIR/FEIS). The 6.4 mgd Project approved by the CPUC would be expected to use about 38,000 megawatt-hours of electricity per year, which would be an increase of 27,000 megawatt-hours per year over Cal-Am's existing baseline electrical use for its water portfolio. According to Cal-Am, the Phase I Project would use about 28,500 megawatt-hours per year. The total indirect annual emissions resulting from that electrical use would depend on what sources of energy (fossil fuels, wind, sun, etc.) are used to generate the electricity supplied to the Project. These indirect emissions would be expected to decrease over time as PG&E and the energy producers it purchases electricity from are able to institute emission reduction measures required pursuant to AB 32 and other state laws, such as increasing the use of lower emitting energy sources, such as solar or wind instead of natural gas. Additionally, and as stated in the FEIR/FEIS, there would also be some emissions – in the range of about 490 tonnes per year – resulting from the release of carbon dioxide caused by pulling seawater and groundwater from depth, where atmospheric pressure is much higher that at the ground surface. There would also be other emissions resulting from vehicle use needed for Project operations and maintenance, use and testing of an emergency generator, etc. The FEIR/FEIS amortized these emissions over an expected 40-year operating life for the facility to determine that these operationally related emissions would total just over 5,188 tonnes per year, which would be well above the 2,000-tonne per year significance threshold identified in the FEIR/FEIS.[122]

Cal-Am's desalination facility, which would use the great majority of the overall Project's energy, would be located outside of the coastal zone. Coastal Act Section 30604(d) states that "[n]o development or any portion thereof which is outside the coastal zone shall be subject to the coastal development permit requirements of this division." Accordingly, this analysis only considers whether the portions of the Project inside the coastal zone comply with the relevant LCP and Coastal Act policies, though the Findings discuss overall Project energy use for context. The portions of the Project within the coastal zone would use energy for construction of those components and would use electricity for running the slant well pumps.

To address the Project's emissions, the FEIR/FEIS includes a mitigation measure meant to ensure that Cal-Am's proposed GHG Emissions Reductions Plan results in net zero operational emissions. This measure requires Cal-Am to identify state-of-the art energy recovery and conservation technologies that it can include as part of its Project, and requires Cal-Am to use renewable energy to the extent possible and to procure and retire Renewable Energy Credits, Carbon Offsets, and other similar instruments that are meant to offset emissions and that are acceptable to any of several state-approved

[122] The FEIR/FEIS used a threshold of 2,000 tonnes of CO_2e per year to determine if the proposed project's emissions would represent a significant adverse environmental effect.

carbon registries.[123] The measure also includes reporting requirements to ensure that Cal-am achieves net zero emissions for each year's operations. In addition, the FEIR/FEIS and Project design include other measures to address energy usage. For example, piping system materials and sizing would be designed to limit pressure losses and reduce pumping and energy requirements, and electrical and treatment equipment would include variable frequency drives to reduce the operating speed of pumps to match the pump discharge pressure requirements and reduce energy usage. To further ensure that the Project meets the "net zero" standard, **Special Condition 19** requires Cal-Am to submit an Energy Minimization and Greenhouse Gas Reduction Plan that specifies measures it will implement to avoid and reduce operational emissions, and to offset any remaining emissions. With the designs and mitigation measures incorporated in the FEIR/FEIS and the Project and with **Special Condition 19** included, the Project would minimize energy consumption, consistent with the LCP and Coastal Act requirements.

[123] Per the FEIR/FEIS, these include the Climate Action Reserve, the American Carbon Registry, the Verified Carbon Standard, or the Clean Development Mechanism; or (ii) any other entity approved by the California Air Resources Board to act as an "offset project registry" under the state's Cap-and-Trade Program.

M. Public Access and Recreation

LCLUP Policy 1 is:

> To insure access to and along the beach, consistent with the recreational needs and environmental sensitivity of Marina's Coastal area.

LCLUP Policy 2 is:

> To provide beach access and recreational opportunities consistent with public safety and with the protection of the rights of the general public and of private property owners.

LCLUP Policy 3 is:

> To provide beach access in conjunction with the new development where it is compatible with public safety, military security and natural resources protection; and does not duplicate similar access nearby.

The LCLUP's "North of Reservation Road Planning Area" requires that proposed development consider:

> Retention of uninterrupted lateral access along the sandy beach frontage.
>
> Protect and continue to provide public access from the nearest public roadway to the ocean.
>
> Structures necessary for the functioning of any Coastal Conservation and Development use (e.g., dredgelines, sewer outfall lines) may cross the sandy beach designated Park and Open Space provided lateral beach access is not significantly blocked.

Coastal Act 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 consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.

Coastal Act Section 30211 states:

> Development shall not interfere 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.

Coastal Act Section 30212(a) states:

> Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where: (1) It is inconsistent with public safety, military security needs, or the protection of fragile coastal resources, (2) Adequate access exists nearby, or, (3) Agriculture would be adversely affected. Dedicated accessway shall not be required to be opened to public use until a public agency or private association agrees to accept responsibility for maintenance and liability of the accessway.

Coastal Act Section 30214 states, in relevant part:

(a) The public access policies of this article shall be implemented in a manner that takes into account the need to regulate the time, place, and manner of public access depending on the facts and circumstances in each case including, but not limited to, the following:
(1) Topographic and geologic site characteristics.
(2) The capacity of the site to sustain use and at what level of intensity.
(3) The appropriateness of limiting public access to the right to pass and repass depending on such factors as the fragility of the natural resources in the area and the proximity of the access area to adjacent residential uses.
(4) The need to provide for the management of access areas so as to protect the privacy of adjacent property owners and to protect the aesthetic values of the area by providing for the collection of litter.

Coastal Act Section 30221 states:

> Oceanfront land suitable for recreational use shall be protected for recreational use and development unless present and foreseeable future demand for public or commercial recreational activities that could be accommodated on the property is already adequately provided for in the area.

Because most Project components in the coastal zone, including the well field and portions of the Source Water Pipeline, would be located between the first public road and the sea, the Coastal Act's public access and recreation provisions apply to all such development in both the consolidated permit action as well as the de novo permit action in the City's LCP jurisdiction. LCP and Coastal Act policies require generally that development located adjacent to the shoreline in areas with public use not interfere with that use and that they provide access to the shoreline.

Effects during construction

The CEMEX site has been an active industrial facility for over a century that has not provided vertical access to the shoreline. Coastal access at the site is primarily available as lateral access along the beach from access points to the north and south. During construction, work to develop the well field and the Project's Source Water Pipeline would occur several hundred feet from the shoreline and would not be expected to affect access to or along the beach and would have little, if any, effect on public access or recreational use. Cal-Am's installation offshore of the modified diffuser

components needed to allow its use of the existing wastewater outfall would involve boats and divers working in coastal waters and would result in temporary and minor effects to use of those coastal waters for fishing or other uses. These construction-related activities would be expected to be consistent with, and not conflict with, the above policies, as they would not require activities or structures on the beach that would inhibit public access or impede beach users.

One component of the Project's construction – replacement of some clamps on the nearshore area of the outfall line – would occur on the beach at the CEMEX site and would likely result in temporary adverse effects on public access during construction. Installation would involve heavy equipment operating on the beach, placement of barriers and protective work zones around the installation, and other measures that could prevent lateral access along the shoreline during extreme high tide events for a period of six to eight weeks during the summer. The aforementioned installation of an outfall liner, if done as described in the FEIR/FEIS, could also involve these types of activities and effects on the beach.

Effects during Project operations

Pursuant to the above-referenced Settlement Agreement, the CEMEX site will soon be transferred to another owner and made available for public access, habitat restoration, and passive recreational uses. It is unclear when this would occur in relation to when Cal-Am's initial well field construction would be completed, when the Project's proposed Phase II might occur, or when it would occur in relation to ongoing Project operations.

During Project operations, Cal-Am's Project could result in adverse effects to public access and recreation, depending on the eventual restoration and access plan that emerges from implementation of the CEMEX Settlement Agreement. The site is currently privately owned and operated for purposes of sand mining, and there is not public access at the site of the proposed wellheads. Project operations therefore would not cause public access or recreation impacts compared to currently existing conditions. However, the CEMEX Settlement Agreement anticipates that most of the CEMEX site will be used for habitat restoration, public access, and passive recreation opportunities. Because this is a known change in environmental conditions that would occur before or during Project construction and operation, it is also appropriate to consider how the Project would affect public access under those future conditions. Cal-Am has a 30-acre permanent easement within the CEMEX site and its well field would include fencing to protect about a quarter-acre of the several well heads and associated equipment. Cal-Am's ongoing maintenance of the well field would result in access and use of heavy equipment and vehicles over an area of up to about six acres over the Project's lifetime, though not all of that acreage would be used at once. The proposed phased Project would reduce this area somewhat, due to a reduction in the number of initially planned well pads and a shorter access road. Specifically, the fenced area has been reduced to approximately 0.17 acre and the area for potential ongoing maintenance has been reduced to 1.9 acres.

It is unclear at this time how these aspects of the Project would affect or prevent public access over this part of the CEMEX site in the future. Until the Commission approves a restoration and access plan pursuant to the Agreement, it is difficult to know exactly how much of an effect Cal-Am's Project would have on future public access and recreation within the CEMEX site or along the shoreline. However, the Project would, at a minimum, fence off about a quarter-acre around the wellheads and some other equipment, occupy another quarter-acre for a period of nine to 18 weeks about every five years for maintenance, and result in use of vehicles and other equipment over an approximately two-acre area over time. This would prevent at least some portion of the overall area used by Cal-Am from being restored and used for public access or recreation. This area is a relatively small portion of the overall CEMEX site, and there is significant beach and coastal area available nearby for coastal access and recreation. However, allowing an industrial use to occupy and use about two acres of prime coastal land that could otherwise be used for coastal access and recreation does not maximize public access, as required by the Coastal Act. As noted elsewhere in these Findings, any adverse effects on access and recreation would likely be experienced disproportionally by members of the nearby communities described in Section IV.I – Environmental Justice.

In a letter it submitted to the Coastal Commission on June 30, 2020, Cal-Am asserts that the Commission should not consider Cal-Am's use of this area to be a public access impact because the Commission's Settlement Agreement anticipated that Cal-Am might use this area for its Project. It is true that the Settlement Agreement acknowledges that Cal-Am has rights to its easement area and permits uses consistent with Cal-Am's anticipated operations in that area. However, the Settlement Agreement merely stated that it did not interfere with any existing property rights that Cal-Am had on the CEMEX property; it did not guarantee Commission approval of a later CDP for the Project or state or imply that it would not analyze or require mitigation for public access or other impacts of any future Cal-Am project on the CEMEX property. Thus, there would not be public access impacts from Project operations compared with existing conditions, nor compared to one set of possible future conditions as allowed for in the Settlement Agreement, but there would be a reduction in access and recreational opportunities compared to what would occur without the Project.

However, to address concerns raised by City of Marina residents regarding their lack of access opportunities in the area, Cal-Am has offered to provide $3 million to fund public access amenities, as described in Section IV.I above and as addressed by **Special Condition 17**. The amenities provided are expected to enhance public access in the area.

Conclusion

The development, as proposed, would result in temporary adverse impacts to public access and recreation during construction. It could also result in relatively modest, but by no means insignificant, long-term loss of public access and recreation opportunities that might otherwise be available through amenities provided through the above-referenced Settlement Agreement, though the amenities provided through Cal-Am's

offer to the City as acknowledged by **Special Condition 17**, the Project is likely to reduce nearby access limitations in a manner consistent with public access and recreation provisions of the Coastal Act and LCP.

N. VISUAL RESOURCES

The LCP's Preservation and Enhancement of Coastal Views policy states:

> Views of the dunes from Highway 1 and the beach shall be protected by keeping development off of the primary ridgeline. Development below the ridgelines shall be limited in height and mass to blend into the face of the dunes: generally structures should be hidden from public view where physical and habitat constraints allow. Where this is not possible, structures shall be clustered and sited to be as inconspicuous as possible.
>
> In areas where mining activity or blowouts have removed sand dune landforms, new development shall not extend above the height of the nearest adjacent sand dunes and shall be clustered so as to preserve access views across its site from Highway One.

The LCP's North of Reservation Road Planning Area requires proposed development consider:

> Visibility of new uses from Highway 1 and from the water's edge.

Coastal Act Section 30251 states, in relevant part:

> The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted 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…

Project components within the coastal zone would consist primarily of pipelines and subgrade components that would have little, if any, visual impact once construction and installation is complete. Within the City of Marina, the Project's well field would include above-grade well heads and electrical boxes surrounded by fences, with all completed Project components would be less than ten feet in height. The City's LCP generally requires that permitted development protect views to and along the coast and specifically requires that views of the dune area from Highway 1 and the beach be protected by keeping development below the dune ridgelines, limiting its height, and clustering structures to the extent allowed by physical and habitat constraints.

Some Project construction – primarily some of the outfall modifications – would occur on or near the Monterey Bay shoreline and would be visible from other nearby publicly accessible shoreline areas, including the highly scenic Marina Dune Complex. These areas are valued in part for their views of the Bay, for wildlife watching, and for recreational activities. If Project construction occurs after the above-referenced transfer of CEMEX lands, it may be visible when the CEMEX property becomes available for public access and recreational opportunities.

During construction, the main Project activities that would affect visual resources would be staging and operating the drilling equipment needed to install the wells, which is expected to take up to about 15 months. Many of these activities would involve the use of large construction equipment and would be visually similar to those that have occurred as part of the sand mining activities at the site. Some of the Project construction activities – including ingress and egress to the site and the use of drill rigs – could be viewed by passing motorists on Highway 1 or by beach users, though most would have distant views that would be partially blocked by intervening dune formations and vegetation. The most visible construction activities near the well field would likely be the lighting associated with the Project, and construction of the outfall modifications, which could be visible from nearby beach areas. Most of the water delivery pipeline construction would be within or adjacent to existing rights of ways, roads, and highways and could be highly visible, though would be similar to other construction activities in these settings that involve use of heavy equipment.

During operations, the visual impacts of the well heads, surge tanks, and fences at the site would be relatively minimal, though their effects would depend in part on the eventual surrounding uses at the site. Cal-Am's preliminary site illustrations show that most of these components would be completed in muted tones intended to blend into the surrounding areas of dune habitat. In the current setting, as well as during the anticipated use of the surrounding area for dune restoration and public access, these components would be visible, but relatively innocuous and small in scale compared to the nearby dunes and vegetation features. Visual impacts would be more substantial during Cal-Am's ongoing maintenance at the well field, which would involve vehicles, heavy equipment, and maintenance activities at a time when similar industrial uses on the rest of the CEMEX site have ended.

To ensure the Project's visual impacts are minimized, **Special Condition 20** requires that Cal-Am submit drawings or other simulations of the Project's proposed above-grade features within the coastal zone showing that the selected colors are muted and would blend into the surrounding areas. **Special Condition 3** requires that Project lighting during Project construction, operation, and maintenance be directed inward and downward towards any work areas or Project components and that it be the minimum needed to ensure the health and safety of Project personnel and the public.

Conclusion

The proposed development would not be on prominent ridgelines and permanent structures would mainly be hidden from public view. Ongoing maintenance activity at the well head sites might be visible from nearby public locations but would be limited in extent so that it would not conflict with the LCP's requirement that development below the ridgelines be limited in height and mass to blend into the face of the dunes. Construction activities would have several temporary adverse visual impacts, but none that conflict with the LCP's or Coastal Act's visual resource policies. The Commission therefore finds that the Project is consistent with those relevant policies.

O. Assessment of Alternatives

Cal-Am's Project is subject to two Coastal Act provisions requiring an assessment of alternatives. Coastal Act Section 30233 states, in relevant part:

> (a)The diking, 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, and shall be limited to the following:
> (1) New or expanded port, energy, and coastal-dependent industrial facilities…

Coastal Act Section 30260 states:

> 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. 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.

Furthermore, and as noted previously, the City of Marina LCP includes provisions that incorporate Coastal Act Section 30260.

The alternatives assessment herein applies to the Project components both in the Commission's consolidated permit jurisdiction (i.e., components in its original jurisdiction and in areas within the County's and Seaside's jurisdiction that the Commission is reviewing pursuant to the consolidated permit) and in the City's LCP jurisdiction (i.e., components that are now before the Commission on appeal).

The Project is subject to Coastal Act and LCP provisions that explicitly require the Commission to determine whether there are feasible and less environmentally damaging alternatives to the Project.[124] In 2020, Commission staff conducted an alternatives analysis using the then-most recently available water demand and supply projections for the area and determined that the proposed Pure Water Expansion project would be a feasible and less environmentally damaging alternative to Cal-Am's then-proposed project and would provide sufficient water without the need for Cal-Am's desalination facility.

[124] The LCLUP states, for example, that uses allowed in Coastal Conservation and Development-designated sites, which includes the Cal-Am location, are to be consistent with requirements of Coastal Act 30260.

Since then, Cal-Am has pursued the Pure Water Expansion project as part of its expected water supply portfolio – for example, Cal-Am's most recent Urban Water Management Plan includes the expected water supply the Expansion would provide, and Cal-Am initiated a proceeding with the CPUC to request approval of an Amended Water Purchase Agreement through which Cal-Am would purchase water from the Expansion project as part of its water supply portfolio. On September 30, 2022, the Administrative Law Judge in that CPUC proceeding issued a proposed decision for Phase 1 of that proceeding that recommends approval of the agreement for the Expansion project based on near-term supply and demand estimates. The parties in that proceeding have submitted comments on the proposed decision, but no parties dispute approval of the Amended Water Purchase Agreement for the Expansion project. The CPUC is currently conducting a second phase of this proceeding to determine reasonably expected levels of water supply and demand in Cal-Am's service area based on longer term estimates (through 2050). The parties in that CPUC proceeding have presented a wide range of water demand and supply projections and widely varying assumptions about future water needs and uses, though all assume that water will be available from the Pure Water Expansion.

As detailed below, the Pure Water Expansion project has fewer environmental impacts than Cal-Am's Project and would likely be available much sooner. The Pure Water Expansion project is a preferred alternative to meet water supply needs in the near term, but it is not likely adequate to meet water supply needs in the longer term (i.e., within the next approximately 20 years).

Cal-Am's Project would have greater adverse environmental impacts but may be needed for longer-term water supply needs. Commission staff concludes that an additional source of water beyond the Pure Water Expansion is likely to be needed to meet demand over a longer-term period – i.e., with demand occurring at some point within the next 20 years. The approximate timing of when an additional source of water supply beyond the Pure Water Expansion project will be decided by the CPUC. As noted in **Special Condition 1**, the Commission's approval of Cal-Am's Project is contingent upon, among other things, this CPUC determination.

Background

As part of its consideration of Cal-Am's project, the CPUC acted as the lead agency in drafting and certifying an Environmental Impact Report (EIR) under CEQA for Cal-Am's MPWSP. As the CPUC explained in the FEIR/FEIS:

> The primary purpose of the MPWSP is to replace existing water supplies that have been constrained by legal decisions affecting the Carmel River and Seaside Groundwater Basin water resources. SWRCB Order 95-10 requires CalAm to reduce surface water diversions from the Carmel River in excess of its legal entitlement of 3,376 acre-feet per year (afy), and SWRCB Order 2016-0016 ("Cease and Desist Order") requires CalAm to develop replacement supplies for the Monterey District service area by December 2021. In 2006, the Monterey County Superior Court

> adjudicated the Seaside Groundwater Basin, effectively reducing CalAm's yield from the Seaside Groundwater Basin from approximately 4,000 afy to 1,474 afy.[125]

The CPUC's review was based on Cal-Am's initially proposed 9.6 mgd desalination facility. In its CEQA review, the CPUC analyzed a variety of alternatives to the Project to determine whether they would meet the basic project objectives. One alternative that the CPUC analyzed in detail was the Pure Water project (the base project for the subsequent Pure Water Expansion project), which had been proposed as part of a water recycling and aquifer storage and recovery project for the area. It was to be operated by M1W and funded by M1W, Cal-Am, and the Monterey Peninsula Water Management District ("MPWMD"). It was designed to recycle and treat water from several sources, including treated wastewater, stormwater, agricultural runoff, and food processing water using several separate treatment methods – ozone, membrane filtration, reverse osmosis (similar to that done in desalination facilities) and disinfection with ultraviolet and hydrogen peroxide. The Pure Water project was to apply these treatments after most of its source water had already undergone primary and secondary treatment at the M1W wastewater treatment facility. After treatment, the treated water was to be injected into the Seaside Groundwater Basin for use by Cal-Am and for longer-term storage in the event of drought. The project was designed to produce about 3,700 acre-feet per year.

The CPUC's Final EIR ("FEIR/FEIS") determined that a smaller Cal-Am desalination facility of 6.4 mgd, in conjunction with the 3,500 acre-feet per year expected from the Pure Water project, was the preferred alternative for Cal-Am's project. In 2018, the CPUC certified the FEIR/FEIS and issued a Certificate of Public Convenience and Necessity for the 6.4 mgd desalination facility and Pure Water project.[126] After the CPUC's approval of a Water Purchase Agreement allowing Cal-Am to purchase water from the Pure Water project, the project was completed in March 2020 and is now producing about 3,500 acre-feet per year of water for use by Cal-Am's customers.

In the proceeding to certify the FEIR, the CPUC also considered a potential 2,250 acre-foot per year expansion of the Pure Water project as a possible supplemental water supply for Cal-Am. However, the CPUC found the Pure Water Expansion project to be "speculative" at that time as it had not yet undergone CEQA review and the initial Pure Water project had not yet started operations.[127] Subsequently, however, as part of Commission staff's 2020 review of Cal-Am's proposed project, staff conducted an

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[125] See https://www.cpuc.ca.gov/Environment/info/esa/mpwsp/PD.html

[126] CPUC No. A-12-04-019, Decision Approving a Modified Monterey Peninsula Water Supply Project, Adopting Settlement Agreements, Issuing Certificate of Public Convenience and Necessity and Certifying Combined Environmental Report, Decision, September 13, 2018, as modified and affirmed in D. 19-01-051 (February 5, 2019).

[127] CPUC Proceeding No. A-12-04-019 (Order Modifying Decision dated Feb. 5, 2019).

assessment of the Pure Water Expansion project using data and analyses that had not been available to the CPUC and concluded that, under the Coastal Act, the Expansion project would provide a feasible and less environmentally damaging alternative to Cal-Am's Project (see additional detail below). In April 2021, M1W certified a Supplemental Environmental Impact report for the Pure Water Expansion. In recognition of these events, Cal-Am's most recent Urban Water Management Plan, released in 2021, identifies water from the Pure Water Expansion as part of its expected water supply portfolio for the next 25 years.

In the currently ongoing CPUC proceeding, Cal-Am is now seeking CPUC approval of an amended water purchase agreement for the Pure Water Expansion project.[128] That proceeding is also considering updated supply and demand estimates to determine the need for the desalination facility in addition to the Pure Water Expansion. That CPUC proceeding has a phased approach where the CPUC will decide approval of the Pure Water Expansion project in first phase and determine longer-term supply demand estimates in a second phase. In the first phase, the CPUC issued a proposed decision on September 30, 2022 approving the Pure Water Expansion based on near-term supply and demand estimates. In that first phase of the proceeding, Cal-Am presented its supply and demand estimates through 2024, and the proposed CPUC decision found Cal-Am's estimates to support approval of the Amended Water Purchase Agreement for the Pure Water Expansion project.[129] All parties to the proceeding concur with the recommended approval of the Amended Water Purchase Agreement, though each has requested some relatively minor changes to the currently proposed text of the agreement.

The parties in the CPUC proceeding are currently litigating Phase 2 and presenting longer term supply and demand estimates through 2050. A decision by the CPUC on Phase 2 expected by 2023 at the earliest.

Alternatives analysis

In this current review, the Coastal Commission, as part of its duties to analyze the Project's conformity with the Coastal Act and LCP, has an independent obligation to consider feasible alternatives to the Project based on current information. Most of the issue areas Commission staff considered in its 2020 assessment are still relevant to this current alternatives analysis and are described below. However, they are now evaluated using additional data and analyses that have been developed since that 2020 assessment and rely, in part, on the CPUC proceeding that is currently underway.

The Findings below discuss Cal-Am's Project and the Pure Water Expansion alternative and evaluate their feasibility, ability to meet project objectives, and ability to protect the public welfare. Fundamentally, Cal-Am's Project and the Pure Water Expansion are water supply projects that, when combined with the other water sources in Cal-Am's water supply portfolio, would allow Cal-Am to reduce its withdrawals from the Carmel

[128] CPUC Proceeding No. A-21-11-024.

[129] CPUC Proceeding No. A-21-11-024 (Proposed Decision dated Sept. 30, 2022 and revised October 31, 2022).

River to no more than its maximum legal limit while providing enough water for Cal-Am's existing and future water demands. As described below, the Pure Water Expansion is a less environmentally damaging alternative to Cal-Am's Project, and one that, if included as part of Cal-Am's water supply portfolio, would protect the public welfare by providing adequate regional water supplies. The Pure Water Expansion project can also be implemented in the near term. The Pure Water Expansion project (in combination with other existing water supply) is likely not adequate, however, to meet long-term demand based on current data. Based on current water demand projections, including data being presented in the CPUC proceeding, it seems likely that an additional source(s) of water beyond the Pure Water Expansion project will be needed at some point within the next 20 years. Therefore, this analysis concludes that it is appropriate to consider Cal-Am's Project as a feasible component of that the water supply portfolio for the service area.

This evaluation uses the same approach as Commission staff's 2020 analysis, but incorporates new data and assessments that have occurred since then:

1) **Feasibility:** The two projects are briefly evaluated for conformity to the criteria of the Coastal Act Section 30108 definition of feasibility – i.e., "'Feasible' means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors."

   - **"Capable of being accomplished in a successful manner":** Both Cal-Am's desalination facility and the Pure Water Expansion would use proven technology to produce and deliver drinking water. Just as Cal-Am is proposing to use treatment processes common to other seawater desalination facilities in operation around the world, the Pure Water Expansion would use the same treatment processes now being used by the baseline Pure Water project and by other water recycling projects in California and elsewhere. The Pure Water Expansion is essentially a larger version of the same Pure Water project that Cal-Am is relying on for a part of its expected water supply. Given that the Pure Water Expansion would use the same processes as the baseline Pure Water project and would be located at the Pure Water facility, which was designed to include this expansion, the Expansion is capable of being successfully accomplished from a technological standpoint.

   - **"Within a reasonable period of time":** Cal-Am's facility is expected to take about two years to construct and about six months to commission and begin operations. The Pure Water Expansion has a projected construction and start-up schedule of about 24 to 27 months total. For either project, the actual timeline to produce drinking water is likely to take somewhat longer, as complex water treatment facilities such as these often require several months of adjustment to achieve their expected production level or needed level of treatment. An additional consideration is that both projects have additional approvals necessary before they can begin operation, as well as other potential obstacles that could adversely affect their feasibility and schedule. The main issues that could affect the timing of each project are briefly discussed below, and these and other

issues are also further addressed at the end of the Alternatives section in the subsection regarding Areas of Uncertainty.

The primary remaining elements needed for the Pure Water Expansion is final approval by the CPUC of an Amended Water Purchase Agreement and acceptance of that Agreement by Cal-Am, M1W, and MPWMD. On September 30, 2022, the CPUC issued a proposed decision in the current proceeding to approve the Amended Water Purchase Agreement for the Pure Water Expansion. The Pure Water Expansion would not proceed until such an Agreement in place, because that Agreement would be needed to secure funding for that project. The Expansion will require additional review and permits for its expected discharge, though that discharge will be similar to the discharge of the already permitted baseline Pure Water project, so much of the necessary analysis has already been completed.

The Amended Water Purchase Agreement would allow Cal-Am to purchase 2,250 afy of water from the Pure Water Expansion project in addition to the 3,500 afy it is currently approved to purchase from the baseline Pure Water project for a total of 5,750 afy. Certain parties have questioned whether the two Pure Water projects will actually yield a supply of 5,750 afy. Although actual water yields from the two Pure Water projects are not yet available because the Pure Water Expansion is not yet in production, M1W has identified sufficient source waters to accommodate both projects.

Regarding Cal-Am's Project, it faces a variety of hurdles that could prevent or delay its construction and operation. As noted above, Cal-Am needs the CPUC to complete its current proceeding to determine reasonable updated water demand and supply projections. Also, in order for Cal-Am to use the proposed outfall for its Project, Cal-Am or M1W must obtain one or more permits to install an outfall liner in M1W's outfall line. The installation would require M1W to apply for an amendment to its CDP for the outfall, which the Commission originally approved in 1996. While Cal-Am and M1W had agreed on a 95% design for the needed liner, M1W has more recently considered including the liner not as a "stand-alone" modification to accommodate Cal-Am's discharge, but as part of a more comprehensive and long-planned relocation and rehabilitation project that would upgrade a substantial portion of the overall outfall. M1W has not yet conducted CEQA review for either option for installing the liner, so it could be up to several years before a final approach is decided upon and the necessary environmental review and permitting is implemented and completed.

There is also ongoing litigation related to several aspects of Cal-Am's Project. This includes litigation filed by the City of Marina and later joined by Marina Coast Water District contending that Cal-Am is not able to use more than 500

acre-feet per year of groundwater from the CEMEX site.[130] In this lawsuit, the trial court issued an order referring certain technical issues to the State Water Board's Administrative Hearings Office ("AHO") for the AHO's determination. The AHO is in the midst of that referral proceeding. Once the AHO issues its proposed report, the SWRCB is expected to review it and issue an order, which is then returned to the trial court. The SWRCB's order is not binding on the trial court, however. The SWRCB's final order is expected sometime in 2023; a trial date in the litigation is set for October 2023. If Cal-Am does not prevail in a final judgment in the case, its desalination facility will not proceed.

Additionally, and as noted above, Cal-Am needs two additional approvals from the State Lands Commission regarding leases of state tidelands – one for the continued operation of Cal-Am's test well as part of the Project[131] and another for the other proposed Project wells. It also needs an approval from the Regional Water Quality Control Board, and approvals from the U.S. Army Corps of Engineers and the Monterey Bay National Marine Sanctuary for various aspects of in-water work, which will be subject to review by the U.S. Fish and Wildlife Service and National Marine Fisheries Service. Pursuant to **Special Condition 1**, Cal-Am will need several of these approvals prior to issuance of this coastal development permit.

The Pure Water Expansion is therefore likely to be available to provide water much sooner than Cal-Am's Project and would likely be in a better position to address near-term supply and demand needs. Therefore, the Pure Water Expansion is a critical component of the water portfolio for the region.

"… and taking into account the following factors":

- **"Economic":** The expected costs of Cal-Am's Project are much higher than those of the Pure Water Expansion. In its 2018 proceeding, the CPUC set a cost cap of $279 million for capital costs for the MPWSP, which included Cal-Am's 6.4 mgd desalination facility and the baseline Pure Water project.[132] At the time, Cal-Am estimated its operation and maintenance costs for the desalination plant to be approximately $19.3 million per year, for a total of approximately $579 million (in 2017 dollars) in operation and maintenance costs over 30 years.[133] Current estimates are that Cal-Am's water would cost more than $6,100 per acre-foot, while the current Pure Water project provides water at cost of $2,808 per acre-

[130] See Monterey County Superior Court Case No. 20CV001387, filed by the City of Marina against RMC Lonestar and RMC Pacific Materials, LLC (together known as "CEMEX") and Cal-Am.

[131] Cal-Am has a lease for the test well that expires in December 2022.

[132] CPUC Proceeding No. A-12-04-019.

[133] CPUC Proceeding No. A-12-04-019 (Cal-Am Opening Brief filed Dec. 15, 2017).

foot.[134] Recent figures for the Pure Water Expansion are estimated to include about $60 million in initial capital costs and about $190 million in operational and maintenance costs over a 30-year operating life. Although the desalination facility would produce more water than the Pure Water Expansion, its cost per unit of water would be about twice as much. Cal-Am has not provided an assessment of how its recently proposed Project phasing might affect the expected costs. Although the first phase would involve reduced initial capital costs for construction and some reduction in operations and maintenance costs, the overall cost per unit of water could be higher than expected, especially when it is not certain if and when additional water from the second phase might be made available to spread costs over a larger volume of water to be produced. As noted above, Cal-Am will also likely need to either account for recouping its Project costs over a shorter Project operating life - i.e., the 25 years it expects its wells to operate - or account for the additional costs to relocate or rehabilitate those wells if they are to continue operating beyond that period.

Cal-Am estimates that adding water from the Project to its water portfolio would increase water rates by $47 to $50 per month, though Commission staff did not receive the analyses Cal-Am conducted to estimate this increase. Other entities, including the MPWMD, have estimated that rates could be three to four times higher.[135] It remains unclear how Cal-Am's proposed $10 per month cost cap for its low-income ratepayers would affect its other ratepayers.

- **"Environmental":** As noted in the Findings above, Cal-Am's Project would result in significant adverse effects on coastal resources, particularly to environmentally sensitive habitat areas, whereas the Pure Water Expansion would be built entirely outside the coastal zone, would be constructed largely on an existing industrial site, and would have relatively few environmental impacts compared to Cal-Am's Project. The Pure Water Expansion would also be greenhouse gas neutral, as it would use renewable electricity generated from landfill gasses. Although the Cal-Am Project would rely on grid-supplied electricity, which generally has a current emissions rate of up to several hundred pounds of greenhouses gasses per megawatt-hour, it is subject to a CPUC-imposed mitigation measure (MM 4.11-1) requiring the Project to have net zero greenhouse gas emissions from electricity used during operations. The Special Conditions imposed through this permit would allow Cal-Am's Project to avoid or minimize most of the environmental impacts, though the Project would still not fully comply with several Coastal Act provisions and would require the Commission to apply the "override" provisions of Coastal Act Section 30260 in order to approve a coastal development permit for the Project.

[134] As stated in the CPUC Proposed Decision on Proceeding A-21-11-024 (modified October 31, 2022).

[135] See, for example, November 5, 2022, *The Cost of New Water on the Monterey Peninsula*, by Dave Stoldt, in Monterey Herald.

Cal-Am additionally noted that its Project was the only alternative available that could supply sufficient water to provide for protective groundwater elevations in the Seaside Groundwater Basin, which would be meant to prevent or reduce a "severe" seawater intrusion problem and to avoid the adverse impacts that would accompany the loss of the Basin's groundwater supply.

- **"Social":** As described more below and in the Findings on Section 30260's public welfare test, either project would provide sufficient water for the Cal-Am's service area, at least in the near term, though Cal-Am's would have far greater environmental justice-related effects on low-income ratepayers and other communities of interest that would require several Special Conditions to address (see Section IV.I – Environmental Justice).

- "**Technological":** As noted above, both projects would generally use proven technology for treating and distributing water. The Cal-Am Project would use a slant well system to provide its source water, and although there are no other operating desalination facilities known to use this system, there are at least two projects here in California where slant wells were successfully tested as a method to supply source water to desalination facilities.[136] Both projects would use a variety of water treatment methods commonly used in water supply facilities. Cal-Am, the Pure Water project and the Pure Water Expansion all rely in part on an Aquifer Storage and Recovery ("ASR") system that is being used in numerous locations as a proven method to store and provide water supplies.

1) **Water supply and demand – would the Pure Water Expansion provide sufficient amounts of water to allow Cal-Am's water portfolio to meet expected demands?** The 2020 Commission staff assessment of alternatives included an extensive evaluation and comparison of the expected water demand and supplies that would be available to Cal-Am with either the Project or the Pure Water Expansion. Key issues included: 1) whether either project would provide an adequate and reliable water supply to meet current and future demands; 2) whether either would be consistent with state requirements regarding the design and capacity of water supply facilities; and 3) whether they would allow Cal-Am to meet conditions of the State Water Board's cease and desist order for reducing withdrawals from the Carmel River.

   At that time, Commission staff concluded that, although there was inherent uncertainty in projecting supply and demand, the most recent data and analyses available showed that the Pure Water Expansion would be expected to meet demand for at least 20 years. While Cal-Am's desalination facility would provide more water than would the Pure Water Expansion, either project, when combined

[136] Along with Cal-Am's test slant well, the South Coast Water District in Orange County conducted successful slant well tests and will use them for its full-scale desalination facility in Dana Point.

with Cal-Am's other available water sources, would provide more than adequate water supplies for current and expected future demands and would allow the water system to conform to the state's design and capacity requirements. Adding either project to Cal-Am's water portfolio would also allow Cal-Am to reduce its withdrawals from the Carmel River in accordance with requirements of the State Water Board's cease-and-desist order. Importantly, although the CPUC's 2018 decision described the Pure Water Expansion as speculative, it recognized that, if built, it would satisfy project objectives and provide sufficient water if the desalination facility was delayed for five to fifteen years.[137] Using data and analyses that had not been available to the CPUC in the prior proceeding, the Commission staff assessment identified substantially lower baseline water demands and concluded that the Pure Water Expansion could be expected to provide the necessary amount of water for at least 20 to 25 years without the desalination facility in place.

Since Commission staff's review in 2020, the CPUC has initiated a new proceeding to identify a reasonable projection of longer-term water demand and supply for the region. Parties to that proceeding have submitted widely varying projections through 2050 based on significantly different assumptions about expected growth rates, the number of new residents to expect, the potential for drought to affect existing supplies, and others. Certain parties argue that there is no need for Cal-Am's Project by 2050 while Cal-Am argues that the Project is needed as soon as 2025. Other estimates project a demand for additional water supply beyond the Pure Water Expansion sometime between 2025 and 2050. For example, the California Public Advocates Office ("Cal Advocates"), which is the independent entity within the CPUC that represents and advocates on behalf of the interests of customers,[138] determined that there would be a demand for the additional supply by 2040.[139] Figure 1 below is a chart from Cal Advocates comparing the supply and demand estimates presented by California Public Advocates and Cal-Am in the current CPUC proceeding:

[137] The CPUC decision states: "…the PWM Expansion would satisfy the basic and key purposes of the Project (i.e., sufficient and reliable water supply) only in conjunction with construction of a desalination plant of some size within five to fifteen years." . CPUC No. A-12-04-019, Decision Approving a Modified Monterey Peninsula Water Supply Project, Adopting Settlement Agreements, Issuing Certificate of Public Convenience and Necessity and Certifying Combined Environmental Report, Decision, September 13, 2018, as modified and affirmed in D. 19-01-051 (February 5, 2019).

[138] Cal. Public Utilities Code § 309.5.

[139] Report and Recommendations of Office of Public Advocates in Phase 2, CPUC No. A-21-11-024, dated Aug. 19, 2022.

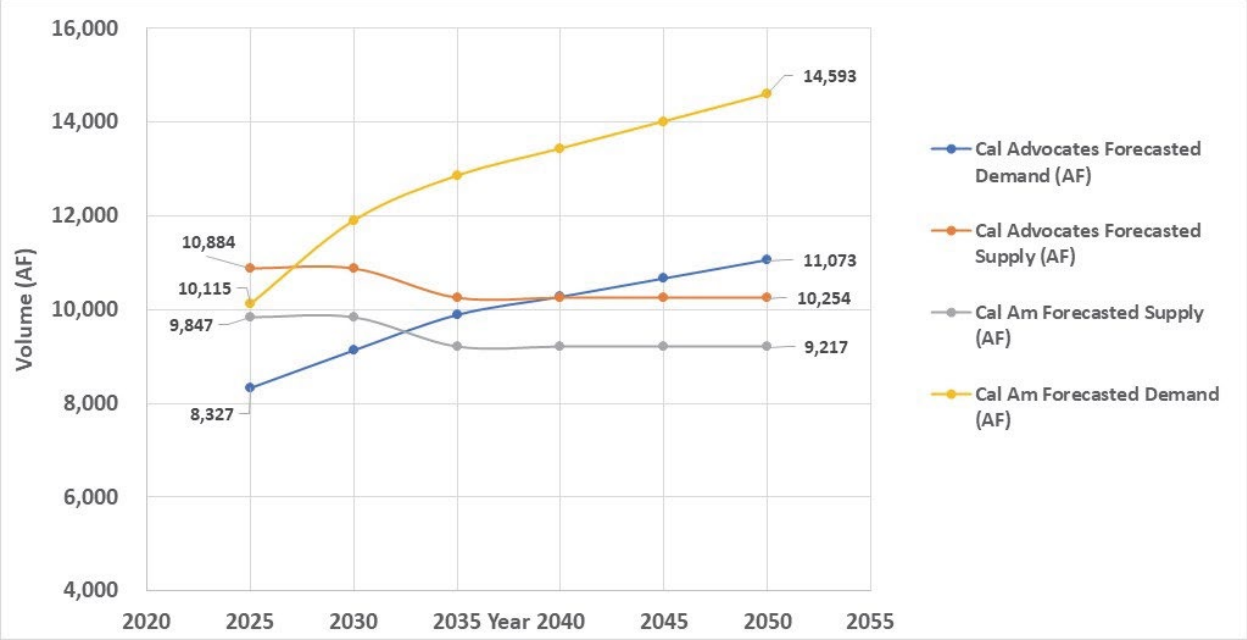

Figure 1.[140]

Determining the amount of water needed for current and future demands generally involves three main steps: 1) identify existing water use and available supplies; 2) identify the expected rates of growth; and 3) identify any additional sources of water needed to serve that growth. Commission staff has reviewed longer-term estimates presented in the Phase 2 CPUC proceeding and believes that there is a basis for demand of additional sources of water supply beyond the Pure Water Expansion at some time by 2050. The Cal Advocates analysis, in particular, which is prepared by an independent entity representing the interests of water customers, provides a detailed and comprehensive analysis that demonstrates a demand for such additional water sources by 2040 (see **Exhibit 11**). The two tables below from Cal Advocates compare the demand and supply estimates of Cal Advocates and those proposed by Cal-Am.

Table 4 below compares the expected demands projected by Cal Advocates and Cal-Am. It shows Cal Advocates' projected demands are substantially lower than those presented by Cal-Am – by about 2,000 to 3,000 acre-feet per year lower at various points in the planning horizon. The Commission notes that the Cal Advocates' demand estimates beginning in 2040 – from 10,283 to 11,073 afy – are close to those that Commission staff cited in its 2020 assessment – an expected demand of from 10,884 afy to 11,240 afy.

[140] Report and Recommendations of Office of Public Advocates in Phase 2, p. 2, CPUC No. A-21-11-024, dated Aug. 19, 2022.

Table 4.[141]

Forecasted Demand (AF)	Cal Am						Cal Advocates					
Demand Category	**2025**	**2030**	**2035**	**2040**	**2045**	**2050**	**2025**	**2030**	**2035**	**2040**	**2045**	**2050**
Residential demand	5,031	5,644	5,754	5,864	5,974	6,084	5,297	5,403	5,511	5,621	5,734	5,848
Non-Residential demand	4,834	5,019	5,204	5,389	5,574	5,759	3,030	3,091	3,152	3,215	3,280	3,345
Total Residential and Non-Residential demand	9,865	10,663	10,958	11,253	11,548	11,843	8,327	8,494	8,663	8,837	9,013	9,194
Pebble Beach Entitlements	-	65	130	195	260	325	-	65	130	195	260	325
Tourism	250	500	500	500	500	500	-	-	-	-	-	-
Legal Lots of Record												
Single Family Residential	-	59	103	147	190	234	-	-	-	-	-	-
Multi Family Residential	-	35	60	86	111	137	-	-	-	-	-	-
Commercial	-	158	274	389	505	621	-	158	274	389	505	621
Residential Remodels	-	27	47	66	86	106	-	27	47	66	86	106
Commercial Remodels	-	21	36	51	67	82	-	21	36	51	67	82
Legal Lots of Record Total		300	520	739	959	1,180	-	206	357	506	658	809
RHNA Demands	-	370	745	745	745	745	-	370	745	745	745	745
Total	**10,115**	**11,898**	**12,853**	**13,432**	**14,012**	**14,593**	**8,327**	**9,135**	**9,895**	**10,283**	**10,676**	**11,073**

Table 5 below compares the Cal Advocates supply estimates with those of Cal-Am, with both including the Pure Water Expansion as one of the supply sources. It shows that, although they rely on the same identified sources, Cal Advocates expects that there will be about 1,000 acre-feet per year more supply than Cal-Am identifies.

Table 5.[142]

Available Supply (AF)	Cal Am						Cal Advocates					
Source	**2025**	**2030**	**2035**	**2040**	**2045**	**2050**	**2025**	**2030**	**2035**	**2040**	**2045**	**2050**
Carmel River	3,376	3,376	3,376	3,376	3,376	3,376	3,376	3,376	3,376	3,376	3,376	3,376
Seaside Basin	1,474	1,474	774	774	774	774	1,474	1,474	774	774	774	774
Aquifer Storage and Recovery	470	470	470	470	470	470	1,210	1,210	1,210	1,210	1,210	1,210
Table 13	-	-	-	-	-	-	189	189	189	189	189	189
Sand City Desalination	94	94	94	94	94	94	94	94	94	94	94	94
WPA	5,527	5,527	5,527	5,527	5,527	5,527	5,750	5,750	5,750	5,750	5,750	5,750
Total before 10% Buffer	10,941	10,941	10,241	10,241	10,241	10,241	12,093	12,093	11,393	11,393	11,393	11,393
10% Supply Buffer	1,094	1,094	1,024	1,024	1,024	1,024	1,209	1,209	1,139	1,139	1,139	1,139
Total after 10% Buffer	**9,847**	**9,847**	**9,217**	**9,217**	**9,217**	**9,217**	**10,884**	**10,884**	**10,254**	**10,254**	**10,254**	**10,254**

Note: The "Table 13" category refers to an additional water right Cal-Am has to divert Carmel River water under certain conditions.

In terms of supply, Commission staff's 2020 assessment cited a higher figure of 11,700 afy than the Cal Advocates current estimate of 10,254 afy for 2040 and later, as shown in Table 6 below:[143]

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[141] Id. at p. 10 (footnotes omitted). The estimates reflect certain assumptions discussed in in the Public Advocates' report.

[142] Id. at p. 6 (footnotes omitted). The estimates reflect certain assumptions discussed in Cal Advocates' report.

[143] From August 25, 2020 Coastal Commission Staff Report, page 121.

Table 6

Supply Source	With Cal-Am desalination (in afy)	With Pure Water Monterey Expansion (in afy)
Cal-Am Desalination	6,252	0
Pure Water Monterey	3,500	3,500
Pure Water Monterey Expansion	0	2,250
Carmel River	3,376	3,376
Seaside Basin	774	774
Aquifer Storage and Recovery	1,300	1,300
Sand City Desalination	94	94
Total Available Supply	**15,296**	**11,294**
Other Available Supply	406	406
Total Available Supply w/Other	**15,702**	**11,700**

Some of the difference is due to Cal Advocates identifying slightly less supply being actually available from some sources, though Cal Advocates also included a 10% "supply buffer." This supply buffer addresses the potential for some under-supply by a factor of 10% (and, therefore, builds in a buffer in the supply estimate). As shown in Table 5, the 10% supply buffer in 2040 and later is 1,139 afy. As noted in the FEIR/FEIS, "[f]orecasting future demand and supply is not an exact science," and "estimating future water demand necessarily entails the use of assumptions about demand factors that cannot be predicted with absolute certainty." The Commission finds that use of a 10% buffer is reasonable, particularly because the Pure Water Expansion does not yet have actual production data to rely on, and Cal Advocates' estimate assumes that the Pure Water Expansion will supply its full production of 2,250 afy. Moreover, drought conditions have become increasingly more severe, which is another significant factor in the analysis. The three-year period ending August 2022 was recorded as the driest three-year period in California since records began in 1895.[144]

Even with the thoroughness of the California Public Advocates' analysis, any need for additional water supply beyond the Pure Water Expansion may occur earlier or later than 2040. Moreover, the CPUC will be adjudicating if and when a desalination facility is needed for the region. The CPUC is expected to reach a decision on longer term supply and demand estimates in 2023, which will help determine how much water is needed, and when, and which projects Cal-Am would be expected to rely on to provide sufficient water for its ratepayers. Importantly, and as Cal-Am has noted, these demand scenarios do not fully account for additional water that the Seaside Groundwater Basin

[144] See NOAA National Centers for Environmental information, Climate at a Glance: Statewide Time Series, Precipitation, published October 2022 (retrieved Nov. 1, 2022), available at https://www.ncei.noaa.gov/access/monitoring/climate-at-a-glance/statewide/time-series/4/pcp/36/8/1895-2022?base_prd=true&begbaseyear=1895&endbaseyear=2022.

Watermaster has identified as necessary to protect the Basin from seawater intrusion, and for which Cal-Am has stated would be available only from its proposed Project.

2) How does the Pure Water Expansion conform to the FEIR/FEIS Project Objectives and Criteria used for Cal-Am's project?

In order to qualify as a feasible alternative to a proposed project, an alternative generally must feasibly accomplish most of the basic objectives of the project. The FEIR/FEIS describes a number of objectives of the MPWSP, for which the FEIR/FEIS identified the 6.4 mgd desalination facility in combination with the base Pure Water project as the preferred alternative. Key objectives included water reliability, such as (1) developing water supplies to replace Carmel River diversions in excess of Cal-Am's legal entitlement and (2) developing a reliable water supply for the Cal-Am Monterey District service area. As discussed above, the Pure Water Expansion project is an important, but not sufficient, alternative to meet these objectives over the next 20 years approximately, based on the new data presented in the current CPUC proceeding.

"No Action" Alternative

The purpose of describing the "no action" alternative is to allow decision makers to compare the impacts of approving a proposed project with the impacts of not approving it. Here, if the Commission denies Cal-Am's Project, Cal-Am would still have available the water supply provided by the Pure Water Expansion along with other components of Cal-Am's water portfolio. As noted above, the CPUC is in the midst of a proceeding to determine Cal-Am's reasonably expected water demand and supply projections over the next 20-25 years, which will help determine how long Cal-Am's water portfolio will be sufficient without the desalination facility in place. The Commission concludes that additional water supply will likely be needed (beyond the Pure Water Expansion) at some point before 2050. As such, the "no action" alternative would not achieve project objectives and is not feasible.

The Commission recognizes the need for long-range planning to address water supply constraints, particularly in this region which has experienced longstanding water shortages. At the same time, in light of the override provisions of Section 30233 and 30260, the Commission also recognizes that other water solutions with fewer environmental impacts than the proposed desalination facility may potentially emerge as feasible alternatives, particularly as the timeframe for construction of the desalination facility becomes longer. **Standard Condition 2** requires Cal-Am to meet all prior-to-issuance conditions of this permit and begin development activities pursuant to this permit within five years. If Cal-Am seeks an extension of the permit term, the Executive Director may either (1) approve an extension of the permit term or (2) require Cal-Am to seek an amended CDP in the event that there changed circumstances affecting this Project that warrant an updated review. Finally, the Commission acknowledges, as the CPUC did in the FEIR/FEIS, that "estimating future water demand necessarily entails the use of assumptions about demand factors that cannot be predicted with absolute certainty." To help ameliorate that uncertainty, Cal-Am's proposed phased approach would create reliability and promote longer term planning by authorizing a smaller 4.8

mgd facility and by permitting full scale construction only if warranted based on conditions demonstrated in the future.

Conclusion

Based on the above, the Commission finds that the Pure Water Expansion project is a feasible and less environmentally damaging alternative to meet supply and demand needs in the near term as compared to Cal-Am's Project but that additional water supply beyond the Pure Water Expansion is likely necessary at some point within the next twenty years. Thus, the addition of the Pure Water Expansion project alone is not sufficient to address longer term supply and demand. Likewise, the "no action" alternative is not feasible for longer term water supply planning. The CPUC-certified FEIR/FEIS identified the proposed desalination facility as a component of the preferred alternative. Therefore, as conditioned, the Commission finds that Cal-Am's Project is presently a feasible alternative to address water supply needs for the region over the longer term.

P. COASTAL-DEPENDENT INDUSTRIAL FACILITY OVERRIDE

Section 30260 of the Coastal Act states:

> 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. 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.

Section 30101 of the Coastal Act states:

> "Coastal-dependent development or use" means any development or use which requires a site on, or adjacent to, the sea to be able to function at all.

Section 30101.3 of the Coastal Act states:

> "Coastal-related development" means any use that is dependent on a coastal-dependent development or use.

The City of Marina LCP includes the following provisions:

LCLUP Policy 41:

> To give priority to Coastal-dependent development on or near the shoreline and ensure that environmental effects are mitigated to the greatest extent feasible.

LCLUP Geotechnical Policies, Policy 1 (first bullet)

> Structural development shall not be allowed on the ocean-side of the dunes, in the area subject to wave erosion in the next 50 years, or in the tsunami run-up zone. The only exception to this would be essential support facilities to a coastally-dependent industry, and in these areas the city will not undertake liability for property damage due to hazards.

Project components within the City of Marina are on property designated by the LCP as "Coastal Conservation and Development," a designation that prioritizes coastal-dependent industrial uses.

LCLUP Coastal Conservation and Development Uses, Policy 2 (second bullet) states:

> Coastal Conservation and Development uses shall be allowed on the west side of Dunes Drive. These activities shall include, but not be limited to, marine agriculture (Mariculture); off-shore and surf-zone sand mining, and other commercial activities dependent for economic survival on proximity to the ocean,

> salt water or other elements available in this particular environment. Development in this area will be allowed in already disturbed areas.

The LCLUP, at page 41, describes uses allowed in areas designated Coastal Conservation and Development:

> …such uses as are dependent upon salt water, the unique coastal-marine environment found in Marina, and/or on resources present only in this portion of Marina's Coastal Zone. Development shall be sited in already disturbed areas. Access roadways shall be kept to the minimum necessary to serve the proposed development and buildings shall be designed and sited to preserve sensitive habitats and views of the coastal dunes.

The IP, in its regulations for Coastal Conservation and Development Districts, includes similar standards for allowed uses in this district. They include:

> Coastal research and educational uses; developed public access and other coastally dependent recreation uses; coastal dependent industrial uses including but not limited to marine agriculture (mariculture), dredge pond, surf zone and offshore sand extraction.

The LCLUP's policies relating to the North of Reservation Road Planning Area identify appropriate uses within the high Flandrian dune area, in which this Project is proposed, to include "activities specifically dependent upon proximity to the ocean" (see LCLUP, page 37). It further states that the uses allowed in Coastal Conservation and Development districts are those consistent with numerous Coastal Act policies, including Coastal Act Section 30260 (see LCLUP, pages 38 and 44).

Analysis

As evaluated in Section IV.E, the Commission finds that the Project is fundamentally inconsistent with (i.e., is inconsistent and could not be brought into consistency through mitigation measures) Coastal Act and/or LCP policies regarding environmentally sensitive habitat areas. Nonetheless, Coastal Act Section 30260 allows the Commission to approve a coastal-dependent industrial facility that is otherwise inconsistent with one or more policies of the Coastal Act's Chapter 3. The City of Marina's LCP, under its Coastal Conservation and Development land use designation, similarly allows coastal-dependent uses that are dependent on proximity to the ocean if the uses are consistent with Coastal Act Section 30260, subject to certain limitations.

The Commission finds that the Project is a "coastal-dependent industrial facility" and can therefore be reviewed pursuant to Coastal Act Section 30260. The LCP does not define the term "coastal-dependent," but Coastal Act Section 30101 states that a coastal-dependent development or use "means any development or use which requires a site on, or adjacent to, the sea to be able to function at all." Cal-Am's proposed Project is coastal-dependent because: 1) its well field will be located adjacent to the shoreline so it can extract primarily seawater from beneath the Monterey Bay seafloor; 2) the shoreward section of its Source Water Pipeline is needed to transport that water from this shoreline area to the inland desalination facility; and 3) the Project's proposed

use of an existing ocean outfall is needed to convey the facility's effluent into coastal waters.

Some commenters have asserted that the Project is not coastal-dependent because the extraction wells would be extracting brackish groundwater, and that brackish groundwater could be extracted further inland instead. However, as detailed previously in these Findings, the Project is expected to predominantly extract seawater over its operating life. To achieve this, Cal-Am is proposing to maximize the length that the Project's slant wells project into the ocean at about 1,000 feet; therefore, they could not extract predominantly seawater if they were located farther inland. In addition, if the wells were located inland and were pulling a higher percentage of non-seawater, this could cause greater adverse impacts to other groundwater users, could affect Cal-Am's ability to obtain sufficient appropriative water rights, and would significantly alter its return water obligations. This would be a less feasible (if feasible at all) alternative to the Project's proposed site for the wells.

Additionally, the proposed Project is an industrial facility. Several Project components fall within at least one category of the North American Industry Classification System ("NAICS") – i.e., NAICS #237110: Water and Sewer Line and Related Structures Construction.[145] Some of the Project components would be built within currently active industrial sites and would use similar equipment and methods as the other uses on those sites. The proposed Project would be implemented by Cal-Am, an entity that, along with being a CPUC-regulated utility, is considered part of the water and wastewater industry. Further, the Commission has previously recognized that public utilities conduct industrial activities – for example, in its 2013 certification of Santa Barbara County Local Coastal Program Amendment No. LCP-4-STB-13-0215-2 allowing natural gas exploration and production by public utilities. The City's LCP also includes several provisions that similarly address "coastal-dependent" uses. The proposed Project is therefore a coastal-dependent industrial facility.[146]

Application of Coastal Act Section 30260

Coastal Act Section 30260 provides for special consideration of coastal-dependent industrial facilities that would otherwise be unapprovable due to inconsistencies with the Act's Chapter 3 coastal resource protection policies. Section 30260 allows the Commission to approve such projects, notwithstanding the project's inconsistencies with those other policies, if they meet a three-part test: 1) if alternative locations are infeasible or more environmentally damaging; 2) denial would adversely affect the

[145] NAICS was formerly the Standard Industrial Classification, or SIC, system. Both systems have been used by U.S. EPA, the State and Regional Water Boards, and others to categorize various industrial activities.

[146] The Commission's findings here are also supported by an unpublished Court of appeal opinion upholding the Commission's 2014 approval of Cal-Am's test well and finding that the test well was a "coastal-dependent industrial facility" and that the City's LCLUP incorporates Section 30260. See *Marina Coast Water Dist. v. California Coastal Comm'n*, 2016 WL 6267909, (Oct. 26, 2016).

public welfare; and 3) if adverse effects are mitigated to the maximum extent feasible. The LCP similarly allows approval of coastal-dependent industrial uses in dune habitat if they are the types of uses allowed pursuant to Coastal Act Section 30260, if the development is sited in the most disturbed areas, and if the adverse impacts of the development are mitigated.[147] Thus, the Commission interprets these LCP provisions consistent with Section 30260 to determine if the Project is approvable, despite its inconsistency with the habitat protection policies of the LCP.[148] For this first test of Section 30260, the Commission is also incorporating the alternatives analysis required pursuant to Coastal Act Section 30233 – that there be no feasible, less environmentally damaging alternative to the proposed project.

Application of the Section 30260 override provision is discretionary: it *allows* the Commission to approve a project that meets the three statutory criteria, but it does not *require* the Commission to do so. Similarly, the Commission need not find that a coastal-dependent industrial project fails to meet the three criteria in order to deny it, although such findings could support a denial. The three tests of Section 30260 are applied below.

Test 1 – Alternative Locations are Infeasible or More Environmentally Damaging and Development is Limited to Already-Disturbed Areas: The first test of Coastal Act Section 30260 allows the Commission to approve a project that is otherwise inconsistent with Coastal Act policies, or in this case, if it is additionally inconsistent with LCP policies, if it finds that "alternative locations are infeasible or more environmentally damaging." As noted above, the Commission is also considering this question in the context of Coastal Act Section 30233's provision allowing fill in coastal waters only "where there is no feasible less environmentally damaging alternative."

As part of the proposed Project's CEQA review, the FEIR/FEIS evaluated alternative locations to the proposed Project. For instance, the FEIR/FEIS analyzed two alternative locations for the slant wells, which involved the construction of intake systems at a site on Potrero Road and a site at Moss Landing. The FEIR/FEIS concluded that siting intake systems at either Potrero Road or the Moss Landing site would not "offer an overall environmental advantage over the proposed project," and would increase impacts compared to the CEMEX site. As such, the FEIR/FEIS identified the proposed Project, with slant wells located at the CEMEX site, as the environmentally superior

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[147] For example, LCLUP Uses allowed in the CD District, Policy 2, p. 41, LCLUP Habitat Protection Policy 1, LCLIP Regulations for CD Districts section b(2)(b).

[148] *McAllister v. California Coastal Commission*, (2009) 169 Cal.App.4th 912, 931. Marina Coast Water District submitted comments asserting that the Commission may only consider whether the Project is consistent with the City's LCP in the appeal and may not use the Section 30260 override. The Court of appeal has previously rejected a substantially similar argument made by Marina Coast Water District in litigation that it brought challenging the Commission's approval of Cal-Am's test well. See Marina Coast Water Dist. v. Cal. Coastal Commission (2016) 2016 WL 6267909 (upholding the Commission's use of the 30260 override, as it is incorporated in the City's LCP, to approve the test well).

alternative. The FEIR/FEIS concluded that the Project's proposed location offers environmental advantages to alternative sites, such as use of an existing outfall, no construction on the seafloor, avoiding impingement and entrainment of an open water intake, and less than significant impacts to groundwater resources, surface water resources and marine biological resources. These findings and conclusions were incorporated into the CPUC's final decision regarding the proposed Project.

The alternatives analysis in Section IV.O of these Findings describes a feasible and less environmentally damaging alternative to the Project that will provide the needed water supply in the near term. However, as described in the Commission's alternative analysis, the Pure Water Expansion Project is likely not adequate to meet supply needs in the longer term. Although there is uncertainty about when water from Cal-Am's Project would be needed and how much would be needed, it is reasonable to expect a need beyond what the Pure Water Expansion would provide at some point within the next twenty years approximately. The uncertainties about when and how much water is needed are addressed through **Special Condition 1**, which acknowledges that the CPUC, which is conducting a proceeding addressing the need for the Project and longer term supply and demand estimates (through 2050), will be making the necessary determination in the near future. Thus, the Commission finds that the proposed Cal-Am Project meets the first test of Section 30260.

Test 2 – To not permit the development would adversely affect public welfare: Section 30260's second test provides that coastal-dependent industrial development may be permitted if to do otherwise (i.e., to deny the proposal) would adversely affect the public welfare. The Findings herein evaluate several benefits and concerns regarding the proposed Project's effects as related to the public welfare.

The Commission acknowledges the need for Cal-Am to obtain a new water supply and the importance of long-term planning in light of the decades-long water supply crisis affecting the Monterey Peninsula region. As noted above, Cal-Am and other entities in the area have been seeking a water supply since about 1995 to replace that obtained from the Carmel River in response to the requirements of a cease-and-desist order from the State Water Board to reduce its water withdrawals from the Carmel River by December 2021 so as to eliminate Cal-Am's water extractions above its legal rights to that water and to benefit the Carmel River watershed, particularly the federally-listed Central Coast steelhead. Without a reliable water supply, part of the Region has been under a moratorium on new water connections since 2010, making it difficult to plan adequately for housing and other community needs. The Pure Water and Pure Water Expansion projects will help to address water supply demand in the short term, but additional supplies will be needed to address the long-term demand.

Cal-Am's proposed Project also includes several components meant in part to address public welfare concerns. First, Cal-Am selected a site where it could obtain its source water using subsurface intakes, which is the state's preferred method for seawater desalination facilities, due to their limited or non-existent adverse effects on marine life.

It also selected a site that, at the time, was already being used by a coastal-dependent industrial facility – the CEMEX sand mining operation – rather than a completely undeveloped coastal location where it may have caused additional adverse effects. Although CEMEX has recently ceased operations and the site will be largely set aside for habitat restoration, public access, and coastal educational opportunities (subject to Cal-Am's existing easement rights on a portion of that property), the Project, as conditioned, will be constructed and operated in a manner that minimizes impacts to surrounding coastal resources and uses. Additionally, Cal-Am proposed to implement the Project in two phases, in part, to address concerns raised by the public about potential impacts to groundwater and wetland resources. Monitoring during the first phase will demonstrate whether the Project is resulting in adverse effects to local groundwater supplies and nearby wetlands and will inform the decision about whether and how to proceed with the full-scale facility. This approach is more protective of coastal resources and the public welfare than the originally proposed full scale facility. Finally, Cal-Am has proposed a series of measures designed to benefit the underserved communities that would be disproportionately burdened by the Project, including programs designed to minimize additional costs to low-income ratepayers and a package of benefits for the residents of Marina. These benefits include increased groundwater monitoring, property tax revenues, funding for improved public access, public facilities and recreational opportunities and restoration for the City. These benefits were largely rejected by the City and thus, environmental justice issues remain unresolved.

The Commission concludes that the desalination Project is necessary to meet longer term supply and demand needs, both to secure a reliable source of water and to help the region undertake long-term planning that is dependent on water supply needs. Thus, a denial of the Project would adversely affect the public welfare. Further, Cal-Am has incorporated several project elements designed to minimize impacts to the public. The Commission also recognizes that despite the benefits of the Project to the region, certain communities face disproportionate burdens from the Project. Cal-Am's proposed measures to offset costs to low-income ratepayers and community benefits for the City of Marina provide some measures to address impacts, but environmental justice issues related to the Project are not fully resolved.

Test 3 – Adverse environmental effects are mitigated to the maximum extent feasible: The third test of Section 30260 and of the LCLUP's Habitat Protection Policy 1 require that the Project's adverse environmental effects be fully mitigated to the maximum extent feasible. As noted in the Findings above, the Commission is imposing an array of Special Conditions requiring that Cal-Am implement substantial mitigation measures to address a range of expected or potential impacts to coastal resources to the extent feasible – from extensive requirements for habitat restoration to address the Project's impacts to sensitive resources to comprehensive design changes and monitoring to ensure groundwater sources are protected. In addition, the CPUC has imposed a Mitigation Monitoring and Reporting Program ("MMRP") as part of its process in certifying the FEIR/FEIS, which includes a number of mitigation measures designed to avoid or reduce potential environmental impacts. The CPUC's MMRP, combined with

the Special Conditions and Cal-Am's proposed ratepayer programs, will ensure that any adverse environmental effects to coastal resources are mitigated to the maximum extent feasible. With the above-referenced Special Conditions, the Commission therefore finds that Cal-Am's Project meets the third test of Section 30260.

Conclusion

The Commission finds that the Project meets the three tests of section 30260 and the parallel LCP policies.

III. CALIFORNIA ENVIRONMENTAL QUALITY ACT

Section 13096 of the Commission's administrative regulations requires Commission approval of coastal development permit 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 the California Environmental Quality Act ("CEQA"). Section 21080.5(d)(2)(A) of CEQA prohibits approval of a proposed development if there are feasible alternatives or feasible mitigation measures available that would substantially lessen any significant impacts that the activity may have on the environment. The Project as conditioned herein incorporates measures necessary to avoid any significant environmental effects under the Coastal Act, and there are no less environmentally damaging feasible alternatives or mitigation measures. Therefore, the proposed Project is consistent with CEQA.

APPENDIX A – SUBSTANTIVE FILE DOCUMENTS

Coastal Development Permit Application No. 9-20-0603 and all related submittals.

California American Water, Coastal Development Permit Application for Monterey Peninsula Water Supply Project, July 31, 2019, with attachments and responses to Commission staff requests for additional information.

California American Water, Monterey Peninsula Water Supply Project Hydrogeologic Working Group – Hydrogeologic Investigation Technical Report, November 6, 2017.

California American Water, Monterey Peninsula Water Supply Project Hydrogeologic Investigation Technical Memorandum Summary of Results: Exploratory Boreholes, July 8, 2014.

California American Water, Reply Comments Regarding Hydrogeologic Study and Technical Report, CPUC Application 12-04-019, January 4, 2018.

California Public Utilities Commission No. A-12-04-019, Decision Approving a Modified Monterey Peninsula Water Supply Project, Adopting Settlement Agreements, Issuing Certificate of Public Convenience and Necessity and Certifying Combined Environmental Report, Decision, September 13, 2018, as modified and affirmed (February 5, 2019).

California Public Utilities Commission No. A-21-11-024, Application of Cal-Am To Obtain Approval of Amended and Restated Water Purchase Agreement for Pure Water Monterey Groundwater Replenishment Project, Update Supply and Demand Estimates for MPWSP, and Cost Recovery, filed November 29, 2021.

California Public Utilities Commission, Monterey Bay National Marine Sanctuary, Final Environmental Impact Report / Final Environmental Impact Statement, March 2018.

City of Marina, file for California American Water CDP application 2018- 01.

Monterey County, Integrated Coastal Groundwater Monitoring Program & Plan, May 2019.

Knight, R. et. al, Preliminary Findings of AEM Study, June 16, 2017.

Knight, R., et al., *Interpretation of Hydrostratigraphy and Water Quality from AEM Data Collected in the Northern Salinas Valley, CA*, Geo Frameworks (March 2018).

Knight R., et al., Gottschalk et al., Using an Airborne Electromagnetic Method to Map Saltwater Intrusion in the Northern Salinas Valley, CA, 85 GEOPHYSICS B119-131 (July 2020).

Marina Coast Water District and City of Marina, technical appendices/attachments to submittals to CPUC pursuant to California American Water application A-12-04-019 to California Public Utilities Commission, April 19, 2018.

M1W, Final Supplemental Environmental Impact Report for the Proposed Modifications to the Pure Water Monterey Groundwater Replenishment Project, April 2020.