



2. Executive Summary

2. EXECUTIVE SUMMARY

2.1 PROJECT SUMMARY

The proposed Desalination Plant is to be located in the vicinity of the CCSD's Effluent Disposal Ponds and east of San Simeon State Park. As part of the CCSD's long-term goal and legal responsibility of providing an adequate water supply to its service area, this project is being proposed to provide a reliable source for the District's domestic water supply. The groundwater supplies from the Santa Rosa and San Simeon groundwater basins are no longer adequate to meet existing and future demand under extreme drought conditions.

To maximize reliability and operational flexibility, it was determined the following construction sequence would best meet the District's needs:

| | | | | | |
|----------|---------------------|---|---------|---|---------------|
| Phase 1: | 2 trains of 100 gpm | = | 200 gpm | = | 288,000 gpd |
| Phase 2: | 1 train of 250 gpm | = | 250 gpm | = | 360,000 gpd |
| Phase 3: | 1 train of 250 gpm | = | 250 gpm | = | 360,000 gpd |
| | Maximum Capacity | | | = | 1,008,000 gpd |

(gpm = gallons per minute; gpd = gallons per day)

Current sizing of the building is estimated to be approximately 15,000 square feet, not to exceed 20,000 square feet and will be constructed in the same style as an agricultural facility. For safety and operational purposes, the building will be a metal structure. Other architectural details and site design will be used to present the facility as an agricultural operation, in keeping with other agricultural facilities in the Cambria area.

The intake transmission facilities would travel from the ocean to a vertical caisson located on a private, undeveloped bluff lot. The caisson would be constructed with sufficient setback from the bluff face to avoid potential damage from naturally occurring erosion of the bluff. A 12-inch intake line and 8-inch outfall line would traverse parcel 013-051-0176, enter into the County right-of-way, with a lateral crossing at the intersection of Highway 1 and San Simeon Creek Road. The transmission lines would continue east within the San Simeon Creek Road right-of-way, terminating at the CCSD property and ultimately connecting with the Desalination Plant.

From the bottom of a 16-foot diameter shaft (known as a caisson), which is to be constructed to a depth of approximately 65 feet on the private lot, an 800 to 1400 foot horizontal pipeline would be constructed under the ocean floor using a construction technique called microtunneling. The depth of seawater would be approximately 15 feet deep at the point that the pipeline terminates, which would be outside the turbulent surf zone.

The microtunneling would terminate at a junction box where sand of sufficient thickness is first encountered. From the junction box, the intake line would extend across sand swath parallel to the coastline and the brine disposal line would extend seaward along the sand swath.

From the point at which the intake pipeline terminates, a buried infiltration gallery, up to 900 feet long, would be constructed. The trench would be approximately 10 to 20 feet wide, and five to ten feet deep. A layer of gravel would be placed in the trench as a foundation. A well screen pipe would be laid in the trench and connected to the main pipeline, allowing seawater to flow into the on-shore vertical shaft.

A variety of outfall designs and locations would be capable of diluting the brine to a safe salinity level within a reasonably small area. The preferred option is a deep underwater discharge. A buried pipeline would extend offshore approximately 300 meters (1,000 feet) to a water depth of 8 to 9 meters (25 to 30 feet). From there, a diffuser pipe resting on the sea floor would extend perpendicular to shore for approximately 30 meters (100 feet), with six to 10 jet ports spaced uniformly along it. Simulation results indicated that this spacing would be sufficient to prevent individual jet plumes from coalescing before settling to the sea floor.

2.2 Environmental Summary

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GEOLOGY, SOILS AND SEISMICITY

Soils - Desalination Plant and Transmission Facilities

§ Grading and excavation activities would be required for construction of the desalination facility, thus resulting in the exposure of soils to short-term erosion by wind and water.

#1. All grading shall be carried out under the guidelines set forth in Chapter 70 of the Uniform Building Code, 1991 Edition.

#2. According to Section 23.05.036 of the County Coastal Zone Land Use Ordinance, if project construction occurs during the period of October 15 through April 15, a Sedimentation and Erosion Control Plan shall be prepared and approved by the County Engineer.

#3. In accordance with Section 23.05.036(d) of the County Coastal Zone Land Use Ordinance, the control of sedimentation and erosion shall include but is not limited to the following methods:

A) Slope Surface Stabilization:

- Temporary mulching, seeding or other suitable stabilization measures approved by the County Engineer shall be used to protect exposed erodible areas during the construction period.
- Earth or paved interceptors (berms) and diversions (sand bags) shall be installed at the top of cut or fill slopes where there is a potential for erosive surface runoff.

B) Erosion and sedimentation control devices:
In order to prevent polluting sedimentation discharges, erosion and sediment control

No unavoidable adverse impacts have been identified after implementation of mitigation measures.

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devices shall be installed as required by the County Engineer for all grading and filling. Control devices and measures that may be required include, but are not limited to energy absorbing structures or devices to reduce the velocity of runoff water.

C) Final Erosion Control Measures: Within 30 days after completion of grading, all surfaces disturbed by vegetation removal, grading, haul roads, and/or other construction activity that alters natural vegetative cover, are to be revegetated to control erosion, unless covered with impervious or other improved surfaces authorized by approved plans. Erosion controls may include any combination of mechanical or vegetative measures.

#4. The design of project facilities shall accommodate soil limitations including, but not limited to, shrink-swell potential.

Geology - Transmission Facilities

• **Bluff Stability**

§ Construction activities associated with installation of the vertical caisson on the bluff top may result in short-term erosional impacts.

The control of sedimentation and erosion through the implementation of controls discussed in Mitigation Measure #3 will reduce potential impacts to bluff stability.

#5. Pursuant to Section 23.04.118 of the Coastal Zone Land Use Ordinance, San Luis Obispo General Plan, revised November 2, 1993, the vertical caisson associated with the seawater intake system shall be set back a minimum of 50 feet from the edge of the bluff top.

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Seismicity - Desalination Plant and Transmission Facilities

§ Earthquakes on the San Andreas Fault, Nacimiento Fault or other faults in the San Simeon area could produce ground shaking in the project vicinity.

#6. Due to the potential for ground shaking in a seismic event, the proposed project components shall comply with the standards set forth in the Uniform Building Code (UBC, 1991 Edition) to assure seismic safety to the satisfaction of the CCSD.

HYDROLOGY, DRAINAGE AND GROUNDWATER

Hydrology - Desalination Plant and Transmission Facilities

§ The Desalination Plant is not within a Flood Hazard (FH) area, however a segment of the pipelines which cross Van Gordon Creek are within a FH designation.

Due to the fact that the transmission facilities will be located within the existing fill material traversing Van Gordon Creek and will not modify the geometry of Van Gordon Creek no mitigation measures are recommended.

No unavoidable adverse impacts regarding hydrology, drainage and groundwater have been identified following implementation of recommended mitigation measures.

Drainage - Desalination Plant and Transmission Facilities

§ Construction activities could increase sedimentation loads into Van Gordon and San Simeon Creeks.

#7. Sedimentation and erosion control measures shall be implemented during project construction in accordance with Section 23.05.036(d) of the County Coastal Zone Land Use Ordinance. These measures include slope surface stabilization and erosion and sedimentation control devices.

§ Drainage patterns in the vicinity of the Desalination Plant would be permanently altered.

#8. If project construction occurs during the period from October 15 through April 15, a Sedimentation and Erosion Control Plan shall be prepared in accordance with Section 23.05.036 of the County Coastal Zone Lane Use Ordinance.

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Groundwater - Desalination Plant

§ Groundwater levels and quality within the vicinity of the proposed project would not be significantly impacted with implementation of the proposed project because there would be no discharges to land or waterway at the Desalination Plant.

#9. Prior to ~~issuance of building permits construction~~, the CCSD shall submit to the County Engineering Department for review and approval a drainage plan showing the collection and control of all waters developed from the proposed Desalination Plant and transmission facilities.

Due to the fact that the CCSD would be required to adhere to applicable waste discharge permit procedures, mitigation measures are not recommended.

TERRESTRIAL BIOLOGICAL RESOURCES

• **Desalination Plant**

§ Construction and implementation of the Desalination Plant on the District site may impact flora and fauna habitat on-site.

#10. The District shall install landscaping consisting of non-invasive ornamental trees and shrubs consistent with the area for the Desalination Plant site. These species should be similar to those found in adjacent communities in order to blend the site into the natural surroundings.

#11. Prior to construction, a biologist shall determine whether the American badger is present on the Desalination Plant construction site. If an active burrow is found within the construction zone, in coordination with the California Department of Fish and Game, the burrow shall be excavated by hand during grading activities to ensure that no American badgers are buried or otherwise harmed by

No unavoidable adverse impacts have been identified after implementation of recommended mitigation measures.

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construction equipment. If an American badger is found, it should be allowed to escape to other tunnels it is likely to have outside the disturbance area.

#12. Prior to construction, a qualified wildlife biologist shall search the Desalination Plant site and construction area for red-legged frogs and southwestern pond turtles to confirm that no individuals of these species occur on the site. If any individuals of these species are found they will be relocated to nearby habitat.

• **Transmission Facilities**

§ Construction and implementation of transmission facilities on natural terrain and along the road right-of-ways may impact flora and fauna habitat in the vicinity of the facilities.

#13. Pipeline alignments which follow existing roadways shall be installed so as to deviate as little as possible from the road right-of-way. This will minimize the amount of adverse impacts on biotic resources of the area.

#14. Soil removed for excavation of the pipeline alignments shall be replaced at the same location. Excavation operation shall adhere to County construction standards and specifications.

#15. Any graded areas within or immediately adjacent to riparian areas shall be landscaped as soon after construction as feasible with appropriate native species. This activity will lessen the potential for erosion and siltation problems to occur. Grading and construction activities shall be carried out in such a manner that sediments and debris does not enter Van Gordon Creek.

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#16. If compact cobwebby thistle is removed as a result of the proposed project, the species shall be reestablished, in accordance with a ~~standard mitigation plan measures to be prepared by CCSD~~ determined by a qualified Botanist, in coordination with the CCSD and San Luis Obispo County, which is to include revegetation sites and ratios.

MARINE RESOURCES

Short-term Construction

- Ocean Intake Structure

§ Marine habitats and communities would be affected by the construction of the Desalination Plant intake pipeline and structures.

#17. A pre-construction marine biological survey ~~was will be~~ conducted to map the distribution and abundance of soft bottom, hard bottom ~~and kelp beds and subtidal surfgrass habitat~~ in the project area during early autumn (October, 1994). Habitats ~~were will be~~ mapped by using side-scan sonar methods, and ground-truthed by diver observations. ~~Results of the investigations are provided in Appendix F (F-3 and F-4).~~ The survey will provide a pre-construction quantitative assessment of the density distribution and size category of kelp plants and qualitatively assess the dominant marine life in the area (plants, invertebrates, fishes, seabirds and marine mammals). Observations ~~will be were~~ conducted along pre-determined transects and within ~~established quadrants in~~ the sand channel and kelp beds immediately up-coast and down-coast of the proposed discharge pipeline, and at selected up-coast and down-coast control areas. The number, size, morphology, and general

The construction of the seawater intake and brine discharge system would result in short-term and long-term unavoidable impacts to sandy bottom habitat at depths between 25 and 35 ft. These include short-term disturbance related to trenching and filling operations, and a long-term replacement of sandy bottom habitat with hard bottom habitat. The hard bottom habitat would include a cement junction box, the seawater discharge pipeline, and armor rock that may be placed over the intake and discharge pipes. These impacts after mitigation are not considered significant. No unavoidable adverse impacts to other marine resources or endangered species are anticipated as a result of the construction or operation of the Desalination Plant.

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state of health of kelp ~~will be~~ ~~were~~ described, measured, and photographed during the pre-construction survey.

The results of the mapping survey will allow the location of the intake and outfall facility to be placed in areas where environmental impacts can be minimized. A Marine Biological Impact Reduction Plan (MBIRP) ~~will be prepared to describe~~ ~~the~~ ~~is presented in Appendix F-1 that~~ describes methods which the District will take to avoid, reduce and mitigate impacts to the marine environment during the construction and operation of the desalination facility. The MBIRP ~~will~~ addresses the following items:

1. ~~Beach and~~ Nearshore construction methods and schedules.
2. Construction equipment to be used ~~on the~~ ~~beach~~ and in the nearshore waters.
3. Locations of rocky intertidal areas, subtidal reefs and kelp beds.
4. Construction methods to avoid and minimize impacts to ~~intertidal and~~ subtidal resources (reefs, kelp beds and sea otters).
5. Construction period monitoring activities and reporting.
6. Pre-construction and post-construction monitoring survey plans and results of pre-construction field survey.

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7. Restoration and compensation for losses if impacts to ~~rocky intertidal~~ kelp beds or reefs occur during construction.
8. Operational overview of the desalination facility.
9. Actions to be taken if salinity levels exceed the concentrations projected by the plume model.
10. Actions to be taken if monitoring data indicates a violation of the NPDES Permit.

The survey report and the MBIRP ~~will be~~ ~~are~~ included in the Final EIR document.

- #18. ~~A~~ ~~p~~ Post-construction marine biological surveys will be conducted in ~~September~~ ~~the~~ ~~early fall period~~ for a ~~minimum~~ two years following construction to determine, if any, the amount of habitat disturbance and long-term impacts to marine flora and fauna as a result of construction activities. The post-construction survey will duplicate the diver observation program performed for the pre-construction survey. ~~plus any additional monitoring required by the NPDES Permit.~~ Salinity and turbidity monitoring will also be conducted along pre-determined transects using cable mounted sensors from a boat. Any loss of sensitive habitat (kelp beds and reefs) will be mitigated according to the recommendations provided in the MBIRP.
- #19. Pre-Construction current meter surveys ~~will~~ ~~be~~ ~~were~~ conducted to provide oceanographic information on local bottom

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current direction and velocities, and wave heights and periods. These data ~~will be~~ ~~were~~ collected over a three-month period between September and November, 1994. Data ~~will be~~ ~~was~~ collected with a single electromagnetic current meter on a fixed sea floor installation. Additionally, water column profile data ~~will be~~ ~~was~~ collected using an internally recording CTD (conductivity-temperature-depth) meter. Ten ~~to 12~~ profiles ~~will be~~ ~~were~~ collected during ~~each of three~~ site visits to install the current meter, retrieve data, and to retrieve the current meter at the end of the three-month period. The results of this survey are presented in Appendix F-2.

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- #20. Dredging operations shall be conducted so that the turbidity levels meet State of California NPDES discharge requirements. Recommendations to reduce turbidity ~~will be~~ ~~are~~ included in the MBIRP (Appendix F-1).
- #21. Anchoring positions should not impinge upon kelp bed or reef habitat. In the event that these habitats are impacted, then the loss of habitat will be mitigated through methods identified in the MBIRP (Appendix F-1).
- #22. Work vessels shall transit through open-water habitat, and avoid kelp bed canopy whenever feasible.
- #23. Oil spill contingency plans shall be developed, and oil-spill response equipment shall be kept on site in the event of a spill of oil products from the work vessels.

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- Ocean Outfall Structure
- § Marine habitats and communities would be affected by the construction of the Desalination Plant discharge pipeline and structures.

Long-Term Operations

- Ocean Intake Structure
- § Entrainment of Marine Organisms. Benthic microflora and fauna may be affected by the constant, low velocity filtering of seawater through the infiltration gallery. This is considered a Class III, less than significant impact. If an open water intake design is used, organisms that are small enough to pass through the intake screens (e.g., plankton, fish eggs, and larval fishes) and cannot escape the current generated by the intake pumps will be entrained and accumulate in the onshore sand filters at the Desalination Plant. This is considered a Class III, less than significant impact.
- § Impingement of Marine Organisms. No fish or swimming invertebrates would be affected by the use of a subsurface infiltration system. If an open water intake system is used, fish and swimming invertebrates may be impinged (trapped) against the protective screens that cover the intake pipes if the current velocity generated by intake pumps is too high for these animals to avoid. This is considered a Class III, less than significant impact.
- § Biofouling of the Intake Pipes and Structure. If an open water intake system is used, algae and invertebrates will be periodically cleaned

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- #24. Laboratory and field monitoring shall be conducted in association with the operation of the Desalination Plant. Although no significant adverse impacts have been identified for resource groups, it will be important to insure that the beneficial uses of the receiving waters are protected for marine resources. The NPDES Permit Monitoring Requirements shall establish a long-term monitoring and testing program to verify beneficial uses are maintained. As a State agency empowered to protect water quality, following the Regional Water Quality Control Board's Monitoring Program shall insure no significant impacts to marine resources will occur. Therefore, the monitoring program and requirements developed during NPDES permitting process shall serve as the mitigation program for the long-term operation of the plant.

The following items are examples of monitoring programs imposed by the Regional Water Quality Control Board in other areas of the State. The long-term mitigation programs will include the following:

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from the outside of the intake and the inside of the pipe. The loss of these organisms is considered a Class III, less than significant impact.

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- There is a low potential for the desalination effluent plume to impinge on reef and kelp bed biological communities based upon preliminary far-field analysis of the discharge brine (Appendix B). While the magnitude and the potential environmental effects are believed to be less than significant, salinity monitoring field studies are the preferred method to verify or reject this hypothesis and will provide a warning that reefs and kelp beds may be affected.
- If the salinity or turbidity testing determines that the sensitive habitats are being impinged upon as identified in the pre-construction or post-construction surveys, both the reef and kelp bed habitats will be monitored by biologists according to procedures set forth in the MBIRP over summer to autumn periods for two years to determine if the species composition, abundance, and richness of the community is affected by the discharge of the desalination brine effluent. Similar observations will be conducted in the vicinity of the outfall pipe. The communities shall also be documented with the use of underwater video and/or underwater photo techniques.
- Benthic biological, sediment physical and/or chemical sampling be initiated as part of the California Regional Water Quality Control Board, Central Coast Region Monitoring and Reporting Program for the operation of the Desalination Plant.

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- As NPDES toxicity standards are developed by the RWOCB for the discharge of desalination brine for the Cambria facility should incorporate the results of these chronic effects bioassays providing the data reflects the marine resource conditions in the vicinity of the Cambria ocean outfall.

- **Ocean Outfall Structure**

§ Reject Brine Discharge. The discharge of reject brine would alter the ambient salinity regime in the vicinity of the outfall. This is considered a Class III, less than significant impact on marine resources.

§ Salinity Tolerances of Marine Organisms. The following discussion is extracted from Coastal Resources Management (1993), which analyzed the effects of salinity on marine resources for the long-term operation of the City of Santa Barbara desalination facility. Applicable parts of the review are included.

§ Brine Effluent Toxicity. Despite a concern that brine discharge can produce adverse effects on marine organisms, the amount of research related to salinity tolerance, and desalination facility discharges in California is negligible (California Coastal Commission, 1992). Additionally, the observed effects of the brine effluent discharge on marine organisms are not well documented because few desalination facilities are actually operating that in temperate, coastal waters. Based upon recent studies, and the results of salinity plume modeling conducted by Jones & Stokes, Associates (Appendix B), the potential for

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long-term, adverse impacts related to brine effluent toxicity appears to be low. Class III, less than significant impacts on marine organisms are anticipated.

- § Desalination Chemicals. The concentrations of chemicals in the brine discharge are expected to be lower than levels known to inhibit growth and reproduction of marine animals, and within concentrations that will not violate State of California Ocean Plan standards. This is expected to be a Class III, less than significant impact on marine organisms.

Brine Effluent Impacts on Resource Groups

- § Plankton. Planktonic organisms will be transient in the vicinity of the outfall and are not expected to be adversely affected by the discharge of brine. There will be no measurable adverse change in species composition or abundance of the plankton community as a result of the operation of the Desalination Plant. This is considered to be a Class III, less than significant impact on plankton.

- § Benthic Organisms. Benthic algae and invertebrates are not expected to encounter higher-than-ambient salinities in the effluent over extended periods of time outside the ZID that would be lethal or result in long-term reduction in reproduction potential, even for highly sensitive forms. There would be no measurable change in species composition or abundance of the benthic community, or degradation of bottom habitat outside the ZID as a result of the operation of the Desalination Plant. Consequently, the operation of the

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Desalination Plant will have Class III, less than significant impacts on benthic resources.

- § Fish. Fish would be transient in the vicinity of the outfall and are not expected to be adversely affected. There will be no measurable change in species composition or abundance of the fish community outside of the ZID as a result of the operation of the Desalination Plant. This will result in Class III, less than significant impacts on fishes.
- § Seabirds. There would be no measurable change in species composition or abundance of the seabird community in the local project area as a result of the operation of the Desalination Plant. Direct impacts to seabirds are not anticipated. Consequently, no impacts to seabird resources are anticipated.
- § Marine Mammals. There would be no measurable change in species composition or abundance of marine mammals in the local project area as a result of the operation of the Desalination Plant. Direct or indirect impacts to marine mammals and their food resources are not anticipated. No impacts to marine mammals are anticipated.
- § Endangered, Threatened, and Candidate Species for Listing. The operation of the Desalination Plant would not degrade the habitat or affect the populations of listed or candidate endangered species. No impacts are anticipated.
- § Sensitive Habitats. The operation of the Desalination Plant would not result in the degradation or loss of any sensitive habitats.

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Class III, less than significant impacts to hard bottom reefs are anticipated if dense, bottom plumes impinge upon nearby reefs or kelp beds.

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CULTURAL RESOURCES

§ Project implementation may result in construction activities occurring near existing and/or potential archaeological resources.

#25. Archaeological monitoring shall be conducted during Phase I of construction in archaeologically sensitive areas. Monitoring shall be conducted by a qualified archaeologist familiar with Chumash and San Luis Obispo County Prehistory and Archaeology. ~~certified archaeologist and include the involvement of members of the local Chumash community.~~ In the event that any buried archaeological materials, historic features, ovens or human remains are unearthed during construction, activity in the vicinity of the resource shall cease until they are evaluated and appropriate recommendations are made by the ~~certified~~ archaeologist and carried out for preservation of the site(s).

#26. The final route shall be selected by carefully monitoring the vegetation and fill removal along the route tested. Should any concentrations of cultural materials be noted, construction shall be temporarily stopped and the corridor redesigned to the east or west to avoid materials.

#27. A Data Recovery Program consisting of excavation of the upper 150 cm of soil (5 feet) within the caisson shall occur prior to drilling activities. Excavation activities shall be monitored by a ~~qualified archaeologist~~

No unavoidable adverse impacts to cultural resources have been identified.

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familiar with Chumash and San Luis Obispo County Prehistory and Archaeology. ~~certified archaeologist~~. A research design shall involve determining the antiquity, range of cultural activities, relationship to other parts of the site (SLO-383) and the vertical and horizontal patterning of cultural materials.

- #28. Road design shall be reviewed and approved by the project archaeologist to minimize impacts to cultural materials.
- #29. Should a retaining wall be required along the access road, a Data Recovery Program shall be developed, implemented and monitored by a qualified archaeologist familiar with Chumash and San Luis Obispo County Prehistory and Archaeology ~~certified archaeologist~~ prior to grading permit issuance.

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LAND USE AND RELEVANT PLANNING

Land Use - Desalination Plant and Transmission Facilities

§ Construction of the proposed Desalination Plant and transmission lines would require consideration of surrounding uses that are adjacent to and in close proximity to the proposed uses. The project may be incompatible with the existing uses in the project area.

As significant land use compatibility impacts would not occur, mitigation measures are not recommended. For mitigation measures relating to short- and long-term impacts for air quality, noise, recreation, aesthetics/light and glare, and transportation, please refer to the respective sections of this document.

No unavoidable adverse impacts regarding land use compatibility or relevant planning have been identified.

Relevant Planning Policies

§ The proposed Desalination Plant may be inconsistent with applicable land use

The CCSD would be required to adhere to applicable permit procedures and policies as

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designations and relevant planning policies of local, State and Federal agencies.

- § Although the project is a permitted use within the agricultural designation (as a conditional use) the project may impact onsite, adjacent and regional agricultural resources in the area.

identified above and in Section 3.5, AGREEMENTS, PERMITS, AND APPROVALS. Adherence to these policies and conditions identified during the permit process would reduce impacts to a less than significant level.

AESTHETICS/LIGHT AND GLARE

Short-Term Construction - Desalination Plant

- § Construction of the Desalination Plant on the District site would create a temporary aesthetic nuisance associated with project construction and grading activities.

#30. During grading operations, a representative from the CCSD shall monitor the construction area to ensure that construction equipment is kept within the established boundary of the construction area.

No unavoidable adverse impacts have been identified after implementation of recommended mitigation measures.

Short-Term Construction - Transmission Facilities

- § Construction of transmission facilities within roadways, natural terrain and the ocean floor would create a temporary aesthetic nuisance associated with project construction and grading activities.

#31. Construction staging and storage areas shall be delineated on construction plans, and where possible, located in limited visibility areas on CCSD property.

Long-Term Operations - Desalination Plant

- § Ultimate development of the site would permanently alter the appearance of the project site.

#32. Prior to grading activities, a detailed landscaping plan shall be developed by the CCSD for the Desalination Plant site. Non-invasive ornamental trees and shrubs consistent with the area shall be planted along the site's perimeter in order to soften visual impacts of parking and facility operation areas.

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- #33. The proposed structures shall be of a color and architectural style similar to rural structures.
- #34. In accordance with Section 23.040.320 of the Coastal Land Use Ordinance, outdoor lighting shall be arranged so as not to direct light onto any street or abutting property. Low intensity light fixtures shall be designed and adjusted to direct light away from any road or street, campground area, ~~creeks~~, trail and/or dwelling outside the ownership of the CCSD.

Long-Term Operations - Transmission Facilities

§ Installation of transmission facilities, primarily the caisson on the bluff top, may alter the appearance of the area.

- #35. Mechanical and electrical control facilities for the pumps in the caisson, located on the bluff top, shall be installed near or below ground level.

NOISE

Short-Term Construction - Desalination Plant and Transmission Facilities

§ Short-term noise impacts associated with construction activities necessary to implement the proposed project components are anticipated to occur. The noise levels would be higher than the existing ambient noise levels on-site and in the vicinity of the project components; however, levels would subside following project completion.

- #36. Prior to ~~the issuance of grading permits construction~~, the contractors shall produce evidence acceptable to the CCSD, that:
 - a. All construction vehicles or equipment, fixed or mobile, operated within 1,000 feet of a sensitive noise receptor shall be equipped with properly operating and maintained mufflers.
 - b. ~~On shore~~ construction hours shall be limited from 7 ~~8~~ a.m. to 7 p.m., Monday

Temporary noise increases would occur during project construction. However, with implementation of recommended project-related construction mitigation measures, the proposed project, would not result in significant short-term noise impacts to adjacent land uses.

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through Friday and shall not occur on weekends or holidays.

- c. All operations shall comply with applicable County Noise Standards.
- d. Stockpiling and/or vehicle staging areas shall be located as far as practicable from dwellings and the State Park.

Notations in the above format, appropriately numbered and included with other notations on the front sheet of grading plans, will be considered as adequate evidence of compliance with this condition.

Long-Term Operations - Desalination Plant

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§ The project is expected to increase the ambient noise levels on-site due to increased human presence and daily operational activities.

#37. Internal Noise monitoring should be conducted during facility operation to evaluate actual operational noise levels, and determine mitigation required to comply with County thresholds and Cal OSHA regulations. Should interior noise levels be found to exceed Cal OSHA thresholds, a hearing conservation program for exposed facility workers should be developed and implemented per Cal OSHA requirements.

#38. The containment structure and noise attenuation equipment associated with the project shall be designed and operated so that noise levels at the nearest property line shall not exceed the noise levels specified in the Noise Element of the County General Plan.

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AIR QUALITY

Climate

§ The proposed project does not have the potential to impact the local or regional climate.

As the South Central Air Basin is non-attainment for ozone (reactive organic gases and nitrogen oxides are a precursor of ozone) and PM10, any contribution to the current non-attainment status would be a significant and unavoidable cumulative impact, although the project-specific daily thresholds would not be exceeded (in consideration of significant emissions reduction from catalytic converters or natural gas engines).

Short-Term Construction

§ Short-term air quality impacts would occur during site preparation and project construction, although these would not be significant.

PM-10. Although no mitigation measures are required, the following APCD measures should be considered to further reduce the potential for construction impacts:

- #39. a. Use of water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. Increased watering frequency would be required whenever wind speeds exceed 15 mph. Reclaimed (nonpotable) water should be used whenever possible.
- b. All dirt stock-pile areas should be sprayed daily as needed.
- c. Permanent dust control measures identified in the approved project revegetation and landscape plans should be implemented as

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soon as possible following completion of any soil disturbing activities.

- d. Exposed ground areas that are planned to be reworked at dates greater than one month after initial grading should be sown with a fast-germinating native grass seed and watered until vegetation is established.
- e. All disturbed soil areas not subject to revegetation should be stabilized using approved chemical soil binders, jute nettings, or other methods approved in advance by the APCD.
- f. All roadways, driveways, sidewalks, etc. to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.
- g. Vehicle speed for all construction vehicles shall not exceed 25 mph on any unpaved surface at the construction site.

Long-term Operations

§ The project would result in a significant overall increase in the local and regional pollutant load due to direct impacts from the stationary source gas emissions generated by the Desalination Plant and power emissions generated by electrical power plants, although these impacts can be reduced to less than significant levels.

- #40. Use of catalytic converter with natural gas engines will significantly reduce NO_x emissions (a BACT measure).
- #41. The CCSD will consider additional RACT and BACT measures where feasible, including:
 - a. Use of Caterpillar pre-chamber diesel engines (or equivalent) together with proper maintenance and operation to

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reduce emissions of oxides of nitrogen (NOx).

- b. Injection timing retard of 2 degrees.
- c. Electrify equipment where feasible.
- d. Installation of high pressure injectors.
- e. Maintain equipment in tune per manufacturer's specifications, except as otherwise required above.

Motor Vehicle Emissions

§ Routine maintenance of the facility would result in additional motor vehicle emissions.

As significant impacts would not occur, no mitigation measures are recommended.

Consistency with Regional Plans and Policies

§ The proposed project would be consistent with the 1991 Clean Air Plan and applicable air quality policies of the Air Pollution Control District.

As significant impacts would not occur, no mitigation measures are recommended.

HUMAN HEALTH/RISK OF UPSET

Human Health

§ Consumption of desalinated ocean water would have no impact on public health.

The CCSD would be required to adhere to applicable permit procedures and regulations identified above. Adherence to these conditions identified during the permit process would reduce impacts to a less than significant level, thus mitigation measures are not recommended.

No unavoidable adverse impacts regarding the public's health have been identified.

§ Operation of the Desalination Plant would result in the generation of spent treatment chemicals.

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Risk of Upset

§ Operation of the Desalination Plant would involve the transportation, storage and use of hazardous materials and would present the possibility of a hazardous spill.

TRANSPORTATION AND UTILITIES

Traffic

• **Short-Term Construction**

§ Construction of the proposed Desalination Plant would result in a temporary increase in traffic volumes in the vicinity of the project area and a disruption of traffic flow in the area of the pipeline construction.

#42. Project construction along San Simeon Creek Road and beneath Highway 1 shall be prohibited on weekends and holidays recognized by the County of San Luis Obispo.

#43. Construction-related impacts along San Simeon Creek Road and near Highway 1 (including prior to and during pipeline installation) shall be minimized by the placement of proper detour and directional signs. The San Simeon State Park access point shall be properly signed and bicyclists, pedestrians and vehicles directed by a flagman during truck/equipment travel in the vicinity. The location and size of the signs shall be approved by the County of San Luis Obispo and/or Caltrans CCSD prior to construction. This measure is subject to periodic field inspections by the County Engineer and daily compliance by the Construction Manager. At least one lane for traffic flow access along San Simeon Creek Road and Lone Palm Drive shall be maintained at all times. Complete

No unavoidable adverse impacts regarding transportation and utilities have been identified following implementation of recommended mitigation measures.

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access along Highway 1 shall be maintained at all times during project construction.

#44. The limits of construction shall be clearly marked as would construction vehicle storage areas and vehicle turn-arounds. The Construction Manager shall ensure the daily compliance with this measure.

• Long-Term Operations

§ Operation of the proposed facility would result in a slight, but not significant, increase in traffic volumes on local streets in the project vicinity.

As significant impacts would not occur, mitigation measures are not recommended.

Utilities

• Electrical Service

§ Operation of the proposed facility would not impact existing electrical facilities and would not require additional facilities to meet the demand of the Desalination Plant.

As significant impacts would not occur, mitigation measures are not recommended.

• Gas Service

§ Operation of the proposed facility would not impact existing gas company facilities and would not require additional facilities to meet the demand of the Desalination Plant.

As significant impacts would not occur, mitigation measures are not recommended.

PUBLIC SERVICES

Fire

§ According to the San Luis Obispo County Fire Department, the development of the Desalination Plant is not expected to result in any significant impacts to fire service.

#45. The proposed Desalination Plant shall comply with the Uniform Fire Code (1991) edition where applicable. Specific areas of the UFC that apply to the proposed project

No significant adverse impacts have been identified after mitigation.

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include, Hazardous Materials, Fire Safety During Construction, Fire Extinguishing System, Fire Alarm System and Potable Fire Extinguisher.

#46. The proposed Desalination Plant shall comply with Public Resource Code 4290 and 4291 regarding Building Setbacks and Vegetation Clearance.

Parks and Recreation

§ Construction activities may result in temporary noise, traffic, visual and fugitive dust impacts to San Simeon State Park campground facilities.

§ The Proposed Desalination Plant would not create long-term significant land use impacts due to its location and design considerations.

For mitigation measures relating to short- and long-term impacts for air quality, noise, aesthetics/light and glare, and transportation, please refer to the respective sections of this document.

Police

§ The project does not have the potential to attract additional population growth in the immediate vicinity of the facility, therefore impacts to police service are anticipated to be short-term in nature, during the construction phase only.

#47. Prior to ~~issuance of a building permit construction~~, the applicant shall submit an Access Plan to the San Luis Obispo County Sheriff's Office Crime Prevention Unit. ~~Approval Acceptance~~ of the Access Plan shall indicate compliance with this measure.

Solid Waste

§ During construction, it is estimated that a small insignificant but unknown amount of solid waste associated with the construction phase would result.

#48. In order to reduce the amount of waste accumulated during the construction phase, recycling of appropriate materials shall occur to the satisfaction of the construction manager.

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2.3 SUMMARY OF PROJECT ALTERNATIVES

In accordance with CEQA Guidelines Section 15126.(d), the following section describes a range of reasonable alternatives to the project, or to the location of the project, which could feasibly attain the basic objectives of the project, and evaluates the comparative merits of each alternative. Refer to Section 7 for a detailed discussion of Alternatives.

"NO PROJECT" ALTERNATIVE

Impacts associated with the Cambria Desalination Plant would not occur if the "No Project" Alternative is selected. Implementation of the "No Project" Alternative would avoid any adverse physical and human environmental impacts associated with development of the facility. Impacts associated with Cultural Resources, Terrestrial Biology, Marine Biology, Utilities and Aesthetics would not occur. Short-term impacts associated with the construction phase of the project would also be eliminated.

Under the "No Project" Alternative the CCSD would be restricted from fulfilling its long-term goal of improving the safe yield of the community's water supply. The domestic water for Cambria is supplied from groundwater aquifers. According to projected domestic water requirements, the CCSD will require more water in the future than the groundwater basins can provide especially in dry years. Implementation of the "No Project" Alternative would not provide the CCSD with a mechanism to produce water, thus the increase in water supply needed to maintain current and future populations would not be fulfilled.

"SAN SIMEON BEACH ROUTE" ALTERNATIVE

The "San Simeon Beach Route" Alternative differs from proposed project in three aspects. A large beach well known as a Ranney Collector would be used to collect feedwater from the saturated beach sand deposits. Collecting water in this location changes the intake and discharge pipe locations so that they would extend through State Beach property. The concentrated seawater outfall pipeline would also be constructed through State Beach property.

When the District determined to pursue a desalination project, two alternative facility scenarios were to be evaluated equally as optional development proposals throughout this EIR document. The North San Simeon Route (the proposed project) and the San Simeon Beach Route Alternatives were considered as viable water supply options. In order to determine the feasibility of the San Simeon Beach route alternative, test wells within San

Simeon beach were required in order to understand the viability of the Ranney Well collector. A request by the CCSD to conduct testing was presented to the California State Parks and Recreation and was subsequently denied on April 28, 1994. Thus, this option was reconsidered as an alternative to the proposed project, the North San Simeon Route alignment.

The alternatives analysis concludes that the San Simeon Beach development scenario may be considered as a viable alternative, subject to additional Beach Well testing. Impacts at the Reverse Osmosis site are similar to the project, as well as the location of ocean outfall facilities. Pipeline and pumping facilities may result in greater short-term impacts to the park facilities, San Simeon State Beach and Van Gordon Creek habitat. These impacts are considered significant as compared to the proposed project and mitigation would be required to reduce potential impacts. Long-term impacts to lagoon levels and associated habitat may be significant, pending the results of testing wells and additional biological review.

"SANTA ROSA CREEK WELL INTAKE" ALTERNATIVE

The "Santa Rosa Creek Well Intake" Alternative differs from proposed project in two aspects. A large beach well known as a Ranney Collector would be used to collect feedwater from the saturated beach sand deposits near Shamel Park (a County park) at the mouth of Santa Rosa Creek. The Desalination Plant would be located near the CCSD wastewater treatment plant. Collecting water in this location changes the intake and discharge pipe locations to extend along Windsor Boulevard and the County Park property. The concentrated seawater discharge outfall would also be constructed through the County Park property.

The Santa Rosa Well intake alternative is considered an Alternative to the proposed project but due to concerns cited which pertain to site development feasibility at the Desalination Plant, the CCSD is no longer considering this alternative as a viable option. Significant concerns and greater impacts have been cited for Drainage, Land Use compatibility, Aesthetics, Transportation and Noise. Further testing and biological assessments would be required in order to ascertain the impacts to and required mitigation for the Santa Rosa Creek, adjacent lagoon, and the ocean environment.

"SANTA ROSA CREEK MULTIPLE INTAKE WELLS" ALTERNATIVE

The "Santa Rosa Creek Multiple Intake Wells" Alternative would utilize several additional sources of intake water beyond the intake well at Shamel Park. The basic concept is to have one or more brackish wells located along Santa Rosa Creek, near the Wastewater Treatment Plant, which would provide additional feed water to the Desalination Plant. Due to the fact that water with the least salinity is the most economical to treat, brackish wells along Santa Rosa Creek would be systematically used as additional supply water. The Desalination Plant would be located on a vacant parcel on Heath Lane across from the wastewater treatment plant.

The "Santa Rosa Creek Multiple Intake Wells" Alternative would result in similar impacts as discussed above under the "Santa Rosa Creek Intake Well" Alternative. This alternative would result in greater biological, hydrological, land use, aesthetics, noise, public health, transportation and services impacts as compared to the proposed project. As stated similarly under the Alternative above, impacts would be greater than the proposed project because the Desalination Plant and transmission facilities within this alternative are located closer to residential uses. Therefore, residents would be subject to short-term construction impacts as well as some long-term operational impacts, such as an increase in ambient noise levels, as compared to the proposed project.

"SAN SIMEON COMMUNITY SERVICES DISTRICT" ALTERNATIVE

SSCSD would receive an established allotment of potable water produced from the Desalination Plant that is agreed upon by the CCSD. This allotment would be above the rated capacity of the Desalination Plant proposed for Cambria's needs. Product water would be transmitted to San Simeon via a transmission line which would be located in the vicinity of Highway 1 and San Simeon Creek Road. The SSCSD transmission line would tie into the Reverse Osmosis Facility from San Simeon Creek Road. Product water would be integrated into the San Simeon water distribution system. Installation of the transmission facility would result in typical short-term construction related impacts associated with trenching activities.

The "San Simeon Community Services District" alternative is ostensibly feasible and may be considered by the CCSD during the project review process. This alternative would result primarily in short-term construction impacts which would cease upon project completion. This alternative development scenario may be subject to additional environmental review

to determine site specific impacts and mitigation for the pipeline alignment. Additional review will be the responsibility of the SSCSD which would act as the lead agency.

DISTILLATION ALTERNATIVE

The CCSD has considered the use of Distillation Technology and may again consider the technological conversion of the proposed Reverse Osmosis facility at a later date, which will be subject to further environmental review.

All things considered, the Reverse Osmosis (RO) is judged to be the best technology at this time for a seawater desalting plant. The only other technology with a chance of being competitive would be a distillation process referred to as mechanical vapor compression (VC). The electric power consumption for a VC plant is slightly higher than for an RO plant. Seawater RO plants with energy recovery require about 20 to 25 kWh per 1,000 gallons of product water; whereas seawater VC plants need about 30 to 35 kWh per 1,000 gallons of product water. The building height for vapor compression plants is higher than for reverse osmosis plants, due to the net positive suction head (NPSH) required for the distillate and brine blowdown pumps. As a result, the height of VC plants typically is about 50 to 60 feet versus about 20 feet for RO plants. Also, noise abatement for VC plants is more difficult. The high speed mechanical compressor is noisier than the high pressure pumps of the RO plant.

COMPONENT ALTERNATIVE

Two additional brine discharge scenarios have been considered by the District. Both options would require additional technical review, should the District pursue either Alternative.

Open Discharge across the Beach to the Surf Zone

Under this alternative, the brine would be discharged onto the beach above the high tide line and would flow across the beach to the surf zone. The flow of the brine would create its own small channel. The end of the discharge pipe would probably be located above the highest level affected by winter storm waves. At the San Simeon Creek location, for example, the discharge pipe could be slant-drilled through the bluff and emerge into a rock pile or other protective anchor at the base of the bluff. The effluent stream would cause some local downcutting (channelization) between the outfall and the surf zone, similar in effect to two existing stormwater outfalls at the north end of the San Simeon Creek location. The effects of the channelization would be short-lived and seasonal. The outfall would only

discharge during the summer months. Winter storms would eliminate much of the channel each year. If the outfall was anchored to the base or the face of a bluff, any channelization is likely to be washed away by run-up from high tide events. The presence of the channel and effluent flow might be considered aesthetically displeasing. This impact could be minimized by placing the outfall along a bluff face with minimal visual access.

Discharge from a Buried Outfall at the Shoreline

Under this alternative, a buried pipe ending at a subsurface leach line would discharge the brine through the overlying beach sands into the surf zone. This configuration would be more aesthetically pleasing than the open channel discharge alternative, but poses some potential engineering problems. The outfall and leach line would need to be buried deep enough to prevent the pipes from becoming exposed during the winter months (as sands move offshore) and subjected to impacts from storm waves. Additionally, subsurface discharge of liquids would increase the interstitial fluid pressure within the beach sands and could cause the sand to be washed away by waves more easily, resulting in a shallow cove or scallop along the shoreline.

"VAN GORDON CREEK SITE" ALTERNATIVE

The Van Gordon Creek Site Alternative would consist of a facility similar to the project description, but at an alternate location approximately 500 feet west of the current proposed location for the Desalination Plant. The site is situated adjacent to the Van Gordon Reservoir in an area currently occupied by two farm houses and agricultural structures. These buildings would be removed to construct the Desalination Plant. This location would provide better access via an existing paved access road, south of San Simeon Creek Road. The clear well would be constructed on the east side of the Desalination Plant.

Although this alternative would, for the most part, result in similar impacts to the proposed project, the Van Gordon Creek desalination site would involve greater impacts at the plant site. This location is closer to the State Park's property, thus there would be greater impacts in the following areas in comparison to the project: Land Use Compatibility, Visual Resources, Demolition and Construction Noise, Operational Noise and Cultural Resources Impacts. A portion of the Desalination Plant site impacts Archeological Site SLO-187. Other areas which would require further on-site review including soils, hydrology, drainage and Terrestrial Biological Resources.