

CALIFORNIA COASTAL COMMISSION

SAN DIEGO AREA
7575 METROPOLITAN DRIVE, SUITE 103
SAN DIEGO, CA 92108-4421
(619) 767-2370



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REGULAR CALENDAR
STAFF REPORT AND PRELIMINARY RECOMMENDATION

Application No.: 6-08-047

Applicant: Cabrillo Power

Agent: Keith Richards

Description: Dredge up to 500,000 cubic yards of lagoon bottom (sand) within the existing approved dredge limits of the outer basin of Agua Hedionda Lagoon and deposit it on three Carlsbad beach locations (North, Middle, and South Beaches).

Site: Outer basin (east of Hwy, 101 and west of the railroad tracks) of Agua Hedionda Lagoon, and Carlsbad State Beach, Agua Hedionda Lagoon, Carlsbad, San Diego County.

Substantive File Documents: Certified Agua Hedionda Land Use Plan; "Study of Sediment Transportation Conditions in the Vicinity of the Agua Hedionda Lagoon" by Dr. Hani ELwany (Oct., 1999), CDP #'s F5536 (1977), 6-93-193-A, 6-93-193-A2, 6-97-46, 6-97-83, 6-00-111, 6-01-80, 6-04-54, 6-06-61.

STAFF NOTES:

Summary of Staff's Preliminary Recommendation:

Staff is recommending approval, with conditions, of the applicant's request to allow the proposed maintenance dredging and beach deposition. The outer Agua Hedionda Lagoon was originally dredged in 1954 as part of the construction of Encina Power Station and has been subject to routine maintenance since that time. The Commission has been approving dredging at this location since 1977. In January 2002, August 2004, and November 2006, the Commission approved dredging projects identical to the proposed project. The subject dredging is proposed to remove sediment transported into the lagoon by tidal action through the existing jetty structure which allows for maintenance of the tidal prism required to provide the Encina Power Station with an adequate volume of seawater for cooling purposes. The proposed project is consistent with past Commission

actions for maintenance dredging and beach deposition. Special conditions address the timing of dredging and beach deposition, pre-and-post dredge requirements, eelgrass mitigation and monitoring, monitoring of beach profiles, grunion protection and invasive species protection. This coastal development permit authorizes a one-time only dredging and deposition of up to 500,000 cubic yards.

I. PRELIMINARY STAFF RECOMMENDATION:

The staff recommends the Commission adopt the following resolution:

MOTION: *I move that the Commission approve Coastal Development Permit No. 6-08-047 pursuant to the staff recommendation.*

STAFF RECOMMENDATION OF APPROVAL:

Staff recommends a **YES** vote. Passage of this motion will result in approval of the permit as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

RESOLUTION TO APPROVE THE PERMIT:

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.

See attached page.

III. Special Conditions.

The permit is subject to the following conditions:

1. Timing of Dredging and Beach Deposition. **PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall submit to the Executive Director for review and written approval, final plans that include the following:

- a. Placement of sand on area beaches shall occur outside of the summer season (Memorial Day weekend through Labor Day of any year).
- b. To avoid potential impacts to the California least tern breeding period and the grunion spawning period, dredging can occur between September 15 and April 15 with the option of extending the dredge period to April 30 if approved in writing by the Executive Director in consultation with the Army Corps of Engineers (ACOE) and California Department of Fish and Game (DFG).

The permittee shall undertake the development in accordance with the approved plans. Any proposed changes to the approved plans shall be reported to the Executive Director. No changes to the plans shall occur without a Coastal Commission approved amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

2. Pre-and-Post Dredge Requirements. At least two weeks prior to dredging and within 60 days of completion of the proposed dredge cycle, the applicant shall submit to the Executive Director for review and written approval the following:

- a. A map of pre-dredge conditions of the outer lagoon and pre- and post-deposition profiles at the approved beach deposition locations; proposed dredge quantities; deposition plan and methodology; and signage plan
- b. Evidence the Corps of Engineers has approved the proposed dredge spoils as suitable for deposition at the approved beach locations, pursuant to ACOE Permit 200100328-SKB.

3. Eelgrass Mitigation and Monitoring. **PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall submit, for review and written approval of the Executive Director, an eelgrass mitigation and monitoring plan that includes at a minimum the following:

- a. Performance of a pre-construction eelgrass survey of the project area by qualified biologist immediately prior to the proposed maintenance dredging in order to establish the location of all eelgrass habitat.
- b. Marking the location of all eelgrass habitat found in the pre-construction survey in order that the contractor can avoid impacting these areas during the proposed maintenance dredging. No anchorage of dredging equipment is permitted outside the limits of the dredging operation.
- c. Performance of a post-construction eelgrass survey of the project area by qualified personnel no more than 30 days after the completion of the work to determine if any eelgrass habitat was impacted by dredging activities.

- d. Performance of mitigation if it is determined by the post-construction eelgrass survey that there has been a loss of eelgrass habitat. This mitigation must be performed in accordance with and subject to the requirements of the Southern California Eelgrass Mitigation Policy (1:1.2 ratio). The applicant shall consult with the Executive Director prior to construction to determine if an additional coastal development permit or amendment is required for any necessary mitigation.

The permittee shall undertake the development in accordance with the approved plans. Any proposed changes to the approved plans shall be reported to the Executive Director. No changes to the plans shall occur without a Coastal Commission approved amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

4. Monitoring/Beach Profiles. Prior to the placement of any material at Middle Beach, South Beach or North Beach, the applicant shall prepare two profiles of the beach and off shore area (to closure or wading depth, consistent with the survey requirements of the ACOE permit) showing the pre-disposal conditions. Profiles shall be taken at the same locations after completion of the disposal, one month after disposal, and annually thereafter until the area either returns to its pre-disposal condition or is further modified by additional nourishment. Reports shall be provided to the Executive Director following the one-month after disposal profiles and after each annual survey, which provide information on site conditions and an analysis of the long-term changes in sediment supply between the jetties.

5. Grunion Protection Plan. During any beach deposition, the permittee shall comply with the provisions of the grunion protection plan as required by the most recent ACOE Permit.

6. Invasive Species. **PRIOR TO THE COMMENCEMENT OF DREDGING**, the applicant shall provide evidence that dredging of the outer lagoon can occur without the risk of spreading the invasive green alga *Caulerpa taxifolia* as follows:

- a. Not earlier than 90 days nor later than 30 days prior to commencement or re-commencement of any development authorized under this coastal development permit, the applicant shall undertake a survey of the project area (includes the dredging area, anchoring areas and any other areas where the bottom could be disturbed by project activities) and a buffer area at least 10 meters beyond the project area to determine the presence of the invasive alga *Caulerpa taxifolia*. The survey shall include a visual examination of the substrate.

- b. The survey protocol shall be prepared in consultation with the Regional Water Quality Control Board, the California Department of Fish and Game, and the National Marine Fisheries Service.

- c. Within five (5) business days of completion of the survey, the applicant shall submit the survey:

1. For the review and written approval of the Executive Director; and
 2. To the Surveillance Subcommittee of the Southern California Caulerpa Action Team (SCCAT). The SCCAT Surveillance Subcommittee may be contacted through William Paznokas, California Department of Fish & Game (DFG) (858/467-4218) or Robert Hoffman, National Marine Fisheries Service (NMFS) (562/980-4043).
 3. If *Caulerpa* is found, then the NMFS and DFG contacts shall be notified within 24 hours of the discovery.
- d. If *Caulerpa* is found, the applicant shall, prior to the commencement of dredging, provide evidence to the Executive Director for review and written approval either that the *Caulerpa* discovered within the project and/or buffer area has been eradicated or that the dredging project has been revised to avoid any contact with *Caulerpa*. No changes to the dredging project shall occur without a Coastal Commission approved amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

7. Term of Permit. This coastal development permit authorizes one time only dredging of up to 500,000 cubic yards of sand from the outer lagoon and disposal to occur at the Middle, South and North Beaches within the approved disposal limits. No extension of the permit expiration date or additional dredge cycles beyond the 2008/2009 cycle is approved.

IV. Findings and Declarations.

The Commission finds and declares as follows:

1. Detailed Project Description. The applicant proposes to dredge up to 500,000 cubic yards of lagoon bottom (sand) within the existing approved dredge limits of the outer basin of Agua Hedionda Lagoon and deposit it on three Carlsbad beach locations (North, Middle and South Beaches). The last maintenance dredging of the outer lagoon was completed in April 2007 and result in the removal of 333,373 cubic yards of sand being placed on adjacent beaches (ref. CDP #6-06-61). The subject dredging project is identical to this previously approved maintenance dredging project.

The dredged material will be removed from the lagoon bottom within a pre-defined dredge limit area, as established by the previous ACOE permit (#200100328-SKB) to allow for protection of eelgrass resources. Consistent with the City of Carlsbad Special Use Permit (SUP) issued October 18, 2006, dredged material is proposed to be placed as follows: 30% on the beach north of the jetty to Oak Avenue and approximately 70% will be placed on Middle and South Beaches. The dredged slurry would be pumped through a floating 20-inch diameter pipeline. For delivery of dredged material to the north, the pipe would float on the lagoon under the Carlsbad Blvd. Bridge and would connect to above

ground, temporary pipes that would be placed along the beach. For south disposal, the pipe would float on the outer lagoon and connect to existing underground pipes under Carlsbad Blvd. The pipes would be extended along the surface of Carlsbad State Beach to reach the south side of the Encina Power Plant discharge jetty. Temporary dikes and berms would be used to de-water the slurry. Bulldozers and front-end loaders would then be used to spread the sand on the beach. Equipment and material staging would occur on the north and west shore of the outer lagoon and along the beach.

The outer Agua Hedionda Lagoon (66 acres) was originally dredged in 1954 as part of the construction for the Encina Power Station and has been subject to routine maintenance dredging since that time. The dredging is performed to remove sediment transported into the lagoon by tidal action through the existing jetty structure. According to the applicant, the average historical sand influx is calculated at 400+ cubic yards per day, but can range up to 800+ cubic yards per day based on background conditions and storm and wave energy. The proposed dredging will allow for the maintenance of the tidal prism required to provide the Encina Power Station with an adequate volume of seawater for cooling purposes. The power plant is located on the south shore of the outer basin of Agua Hedionda Lagoon, within a hundred yards of the Pacific Ocean. Other existing uses within the outer lagoon include aquaculture farming and marine research (Hubbs Fish Hatchery).

The City of Carlsbad has a certified LCP; however, development will occur within a deferred certification area, the Agua Hedionda plan area, where the Commission retains permitting authority. Thus, the standard of review is the Chapter 3 policies of the Coastal Act with the certified Agua Hedionda Land Use Plan used as guidance.

2. Permit History. The Coastal Commission has approved dredging of Agua Hedionda Lagoon for many years in association with the needs of the existing power plant dredging program (ref. CDP Nos. F5536, 6-93-193, 6-93-193-A, 6-93-193-A2, 6-97-45, 6-97-46, 6-97-83, 6-00-111, 6-01-80 and 6-04-54, 6-06-61). A brief permit history follows.

CDP #F5536 (1977) permitted the applicant to annually deposit dredged sand from the lagoon's outer basin onto Carlsbad State Beach, immediately adjacent to the facility to the west. It was replaced by CDP #6-93-193 in March 1994.

In CDP #6-93-193 and amendments, the Commission approved (1994) the applicant's request to modify the boundary of the approved dredge disposal limit associated with the applicant's beach nourishment program to extend north of the lagoon to Oak Street; to allow dredge of 130,000 to 150,000 cubic yards of sand on an annual basis from October 1 to April 15 or at 30 month intervals for five years through February 3, 1997; and amended the approved maintenance provisions as they relate to the operation of the Encina Generating Station.

In CDP #6-97-45 (August, 1997) the Commission approved the dredging of approximately 200,000 cubic yards of sand from the outer basin of Agua Hedionda

Lagoon, starting September 15, 1997 and ending April 15, 1998. The Commission approved the dredged spoils to be placed on "Middle Beach." SDG&E (the owner of the plant at that time) had proposed to put the sand on the "South Beach." The Commission found the Middle Beach deposition location would provide a greater recreational benefit to beach users along the Carlsbad shoreline because it is the most heavily attended beach in Carlsbad and has supporting parking facilities, public walkways and lifeguard service, while the South beach provides less beach use and fewer support facilities. The City of Carlsbad proposed that sand should be placed on the "North Beach". Based on conflicting opinions of shoreline experts and the lack of definitive studies that corroborated either the City's or the applicant's position, the Commission found that the sand should be placed where it would provide the most recreational benefit to coastal visitors--the Middle Beach. This area accommodates the greatest beach patronage along the Carlsbad shoreline. The Commission found that the public access and recreation policies of the Coastal Act and certified Agua Hedionda LUP seek to maximize public recreation and access opportunities at shoreline locations and the project would further that end.

In CDP #6-97-46 (November 1997), the Commission approved the dredging of approximately 57,000 cubic yards of sand from the middle basin of Agua Hedionda Lagoon. The Commission again found that the dredged spoils should be placed on the Middle Beach for the same reasons it cited in CDP #6-97-45. Project studies indicated an additional 57,000 cu.yds. could be easily be accommodated on the Middle Beach. At the hearing, the Commission expressed a desire to see material from future dredging placed north of the power plant intake jetty on the North Beach.

In light of the differing opinions where the sand should be placed, the Commission required the permittee to complete a study to determine the effects of the power plant on sand transport and erosion rates within the vicinity of Aqua Hedionda Lagoon to be used for future decision-making on future dredging projects. The study was to enable the Commission to determine where beach quality material dredged from Aqua Hedionda Lagoon by SDG&E should be placed in the future, in order to replenish those beaches most affected by the operation of the power plant

In CDP #6-97-83, the Commission approved up to 797,000 cubic yards of dredging within the inner (647,000 cu.yds. starting Spring 1998) and outer basins (150,000 cu.yds starting Spring 1999) of Agua Hedionda Lagoon. Approximately 341,000 yards of beach quality sand resulting from the inner lagoon dredging was approved to be placed on the Middle Beach and all sand resulting from the outer lagoon dredging was approved to be placed on the North Beach, directly north of the Middle Beach and continuing to Oak Street, about 1 mile. The remaining 306,000 yards of material was approved to be buried and capped within a "borrow pit" in the inner lagoon. SDG&E requested the permit application for dredging of the inner and outer lagoon be scheduled prior to their obtaining the results of the study to keep their dredging operation on schedule and not jeopardize funding, but also to address the Commission's stated concerns regarding the need to increase the tidal prism of the entire lagoon. Absent the findings of the study, the

Commission again approved the dredged spoils from the inner lagoon be placed on the Middle Beach where it could be easily accommodated.

Additionally, the Commission approved that the dredged spoils from the outer lagoon be placed on the North Beach as SDG&E had the capability to deliver the sand there from the outer lagoon. The Commission found that sand placement on North Beach, which is served by a parking lot and numerous public access points, would provide a clear recreational benefit for coastal visitors. In the same action, the Commission denied the applicant's request to receive a 5-year approval to perform maintenance dredging. The Commission found absent the findings of the sand transport study and due to other concerns, any subsequent dredge cycles should be subject to a separate coastal development permit to assure its consistency with Coastal Act policies and involve coordination with the Corps of Engineers, City of Carlsbad and State Parks to determine the appropriate disposal site(s) for the future.

Historically, the City of Carlsbad had required that much of the dredged sand be placed north of the lagoon as opportunistic beach fill. While the former power plant owner complied with this requirement, they had resisted putting sand on the beach north of Agua Hedionda Lagoon inlet because certain studies had shown that most of the sand ends up right back in the lagoon. Thus, the result of putting dredged sand north of the inlet was viewed by the former power plant owner as an increase in the overall annual maintenance dredging burden. Additionally, the implementation of the SANDAG Regional Beach Sand project in spring 2001 was projected to further increase sedimentation of the lagoon, as noted in the SANDAG FEIR. The applicant notes that any additional sand put into the littoral system north of the lagoon will have a direct impact on the lagoon sedimentation rate resulting in an increased dredging requirement for Cabrillo Power.

To address this concern, the Commission required the previous owner of the Encina Power Plant to pay for an independent study to assess sediment transport conditions in the area of the Agua Hedionda Lagoon. The purpose of the study was to provide a scientific basis for addressing the ongoing issue of where to put the sand dredged from the lagoon. In October 1999, the report commissioned by the Coastal Commission and prepared by Dr. Hany Elwany of Coastal Environments was presented to the Coastal Commission. Dr. Elwany's report entitled "Study of Sediment Transport Conditions in the Vicinity of the Agua Hedionda Lagoon" was accepted into the record as complying with the Commission's previous direction regarding future dredging permits.

Dr. Elwany's report looked at average historical sedimentation rates and conditions in and around the lagoon. The report states, "...Approximately 80% of the sand trapped inside the lagoon is deposited from the southward sand transport and 20% from northward sand transport...." These findings are based on historical averages. The report goes on to state "...The evaluation of sand-placement options provides the following results: 1) to replenish sand removed by the power plant about 80% of the dredged sand should be placed on Middle and South Beach, and 20% on North beach; 2) to minimize the need for re-dredging, the sand should be placed as far from the intake channel as

possible...Therefore, for sand placement on North Beach, a 2,000-ft buffer is recommended....” However, the report recommends that 30% of the sand dredged from Agua Hedionda Lagoon be placed on North Beach, near Pine Avenue and 70% be placed on Middle and South Beaches.” The finding that 20% of the sand be placed north, is therefore, based on a scientific understanding of sediment transport conditions while the 30% figure represents “... a reasonable compromise between the competing needs for the sand, benefits and costs, and environmental constraints.” Carlsbad’s 2001 SUP approval found that “based on a variety of scientific and public benefit considerations, that 30% of the dredged sand should be placed on North Beach.”

In CDP #6-00-111, the applicant proposed to comply with the findings of Dr. Elwany’s report and to cooperate with the City of Carlsbad to allow maintenance dredging to occur in the fall. To this end, the applicant proposed to put 30% of the sand north of the intake jetty. However, the applicant indicated it would prefer to commit to placing 20% of sand on North Beach, during each dredge event, because this number is based on a scientific understanding of sediment transport conditions within the vicinity of the lagoon. Nonetheless, the applicant proposed to place the dredged spoils consistent with the recommendations contained in the Elwany report as follows: 100,000 cubic yards of dredged material would be placed on North Beach (between Oak Street and Cherry Street); with the remainder (approximately 40%) being placed on Middle Beach (beach between intake and outfall jetties); and 30% on South Beach (south of outfall jetties). The Commission approved the deposition process as proposed.

In CDP #6-01-80, (Feb. 2002) the Commission approved maintenance dredging and beach deposition that resulted in the dredging of 336,857 cubic yards of sand in April 2003. The Commission again limited its approval to a one-time only occurrence and not for multiple dredges over a 5-year period as requested by the applicant. Because of possible changes to local environmental conditions that could affect shoreline processes (El Nino, severe winter storms, beach nourishment on the Carlsbad shoreline from other projects, invasive algae that has been found in the lagoon), the Commission found that each individual dredge cycle must be approved separately.

In August 2004 and most recently in 2006, the Commission approved an identical maintenance dredging and beach deposition as the 2002 project (CDP #6-04-54, 6-06-61). The proposed development is identical to these previous dredging projects.

3. Beach Replenishment/Public Access. The subject proposal involves dredging the outer basin of Agua Hedionda lagoon, including placement of dredged spoils on the adjacent Carlsbad State Beach. Agua Hedionda Lagoon is a prominent community resource and public asset. The lagoon and its surrounding uplands support numerous land uses and activities all dependent upon a healthy lagoon including: the Encina Generating Station; the Hubbs-Sea World Research Institute, aquaculture research and farming; a YMCA children’s camp; commercial water sports entities; a residential boat harbor; private residences and many other public recreational open space amenities and uses including kayaking and fishing. There are several provisions of the Coastal Act that encourage use of suitable material to supply the region's littoral zones with sand. Such

deposition of beach quality material on the region's shoreline will create and protect coastal recreational areas for use by the general public, consistent with Coastal Act policies as follows:

Coastal Act Section 30233(b) addresses, among other things, the dredging of open coastal waters and placement, within the littoral zone, of dredged spoils and states, in part:

(b) Dredging and spoils disposal shall be planned and carried out to avoid significant disruption to marine and wildlife habitats and water circulation. Dredge spoils suitable for beach replenishment should be transported for such purposes to appropriate beaches or into suitable long shore current systems.

The above language in Section 30233 clearly suggests the benefit of restoring the region's beaches through use of material that would otherwise reach the shoreline, but for man's intervention by development and flood control projects. Therefore, the Commission finds when dredge material is compatible with and suitable for use as beach sand along the region's shoreline; it should be transported to the shoreline for such use, consistent with the public access and recreation policies of the Act.

Section 30604(c) of the Act requires that a specific access finding be made in conjunction with any development located between the nearest public road and the sea to assure conformance with the public access recreation policies of the Coastal Act. Many other provisions of the Coastal Act address public access and recreation, including the following:

Section 30210

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.

Section 30212.5

Wherever appropriate and feasible, public facilities, including parking areas or facilities, shall be distributed throughout an area so as to mitigate against the impacts, social and otherwise, of overcrowding or overuse by the public of any single area.

Providing as much sandy beach area as possible for use by the public is consistent with the intent of Sections 30210 and 30212.5 which require that public access and recreational opportunities be maximized in order to protect any one natural resource area, i.e. shoreline or park, from overuse. Providing additional recreational area, through placement of sand along a useable shoreline, will result in less crowding and provide an alternative to existing resource areas which are highly utilized by the public due to the availability of sand.

Section 30213

Lower cost visitor and recreational facilities shall be protected, encouraged, and, where feasible, provided. Developments providing public recreational opportunities are preferred....

Section 30220

Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses.

In addition, Policy 3.3 of the certified Agua Hedionda Land Use Plan states:

Maintenance dredging and channel alteration must be performed in a manner consistent with the applicable sections of the Coastal Act. All dredging activities will require a permit for the Army Corps of Engineers with review by appropriate agencies, including the Department of Fish and Game, U.S. Fish and Wildlife, etc. In addition, a Department of Fish and Game 1601-03 permit may be required

Providing additional useable beach area is providing a lower cost visitor and public recreational facility. When it is feasible for dredge projects that involve excavation of large volumes of beach suitable material to deposit the dredged material on the region's beaches, such activity is consistent with Section 30213 of the Act. Creation of additional coastal areas, such as beaches, suited for water-oriented recreational activities, is also consistent with Section 30220.

As noted, the dredging of the outer basin has been conducted since 1954 when the generating station was constructed. Additionally, a dredging and beach replenishment plan has been successfully operated since 1954 to provide sand to Carlsbad beaches and as such is a tremendous public benefit. The beach replenishment plan has been developed in consultation with the City of Carlsbad, ACOE, the California Department of Fish and Game (DFG), the Regional Water Quality Control Board, and the Environmental Protection Agency and is an example of a proactive effort between public and private interests serving both local and regional recreational needs.

The Commission required and approved the findings of the "Study of Sediment Transport Conditions in the Vicinity of the Agua Hedionda Lagoon", which looked at average historical sedimentation rates and conditions in and around the lagoon. The proposed project complies with the findings of the report. The applicant proposes to put 30% of the sand north of the intake jetty. The applicant notes that any additional sand put into the littoral system north of the lagoon will have a direct impact on the lagoon sedimentation rate resulting in an increased dredging requirement for Cabrillo Power. However, to comply with the City of Carlsbad's recent permit approval and the Elwany report, the applicant proposes to put 30% of the sand north of the intake jetty. The

Commission finds the proposal is in compliance with the sand transport study and the above-cited sections of the Coastal Act.

Special Conditions #1 and #2 require that the applicant prepare a final map of pre-dredge conditions of the lagoon and pre- and post- deposition profiles at the approved beach deposition locations. The deposition profiles will provide a record of how existing and proposed beach profiles have changed and will be used to place sand in areas where it will be retained the longest. Also required is an accounting of proposed dredge quantities; a deposition plan and methodology; and a signage plan to ensure that coastal visitors will be made aware of the project and its boundaries. Deposition of sand is prohibited during the peak summer season.

4. Sensitive Resources. Several policies of the Coastal Act provide for the protection, preservation and enhancement of coastal wetlands and species that depend on those wetlands as habitat. Those most applicable to the proposed project are as follows:

Section 30230

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

Section 30231

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...

Section 30233

(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, including commercial fishing facilities.

(2) Maintaining existing, or restoring previously dredged, depths in existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.

(3) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities.

(4) Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.

(5) Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.

(6) Restoration purposes.

(7) Nature study, aquaculture, or similar resource dependent activities.

(b) Dredging and spoils disposal shall be planned and carried out to avoid significant disruption to marine and wildlife habitats and water circulation. Dredge spoils suitable for beach replenishment should be transported for such purposes to appropriate beaches or into suitable long shore current systems.

[...]

Policy 3.4 of the certified Agua Hedionda Land Use Plan states:

A program for monitoring the eelgrass beds in the inner lagoon, for the purpose of determining the need for protective measures, shall be carried out by the Department of Fish and Game in consultation with the City of Carlsbad, prior to dredging of the middle or inner lagoons.

As noted above, Section 30233 limits dredging and fills of open coastal waters and wetlands to specific permitted uses. The proposed dredging will occur within open coastal waters. In this particular case, the Commission is approving the project as a permitted use as it is maintenance dredging for a very minor incidental public service purpose (i.e., to assure the continued operation of the power plant). As identified in the remainder of this report, the Commission also finds the project is the least environmentally damaging alternative and that project impacts have been mitigated as also required in Section 30233.

With respect to dredging of the outer lagoon, the time of year during which the dredging can occur is restricted by a number of resource agency approvals. These restrictions assure there are no adverse impacts to the California least tern breeding period and the grunion spawning period. The ACOE Section 404 permit allows dredging outside the

sensitive breeding seasons with the option of extending the dredge period to April 30 if approved in consultation with the California Department of Fish and Game (DFG) and the National Marine Fisheries Service. On several occasions the ACOE has allowed dredging to extend until April 30, finding by field inspection that the time extension would not adversely impact either the least tern or grunion breeding seasons.

The outer basin of Agua Hedionda Lagoon also contains extensive eelgrass beds, a protected resource under Coastal Act policies. Eelgrass provides habitat for many fish and invertebrates. Previous Commission approvals have required mapping of the existing eel grass beds prior to dredging and after dredging to determine any impacts from dredging. If any eelgrass impacts occurred, the ACOE permit requires revegetation to be carried out at a ratio of 1.2 square feet of mitigation area for each square foot of area impacted, with the final location of the mitigation area to be verified by the National Marine Fisheries in conjunction with the Dept. of Fish and Game. The mitigation area is not subject to future dredging. Monitoring and maintenance of the revegetation effort is also required through the ACOE permit. Special Condition #3 addresses this concern and requires the applicant to perform pre-dredge surveys to determine the location of eelgrass so that it can be avoided during dredging operations. This condition also requires post-dredging surveys to determine if any eelgrass has been impacted and requires mitigation for such impacts at a ratio of 1:1.2 (impact to mitigation).

Regarding grunion impacts, the Commission has in the past attempted to ensure that beach deposition of dredged materials does not bury grunion eggs that are deposited at the South, Middle and North beaches during high tides during the spawning season. The eggs hatch from stimulation associated with the subsequent high tide and the fingerlings return to the ocean. According to the Dept. of Fish and Game, spawning occurs from March through August, and occasionally in February and September. Peak spawning period is between late March and early June. Thus, the proposed beach deposition could have adverse impacts if sand were deposited over the eggs before they hatch. That is, sand could be deposited so high above the eggs that the tides could not reach the eggs to hatch them. However, the existing ACOE permit requires monitoring of expected grunion runs that are annually predicted by the CDFG during the sand discharge. If grunion are observed spawning, the ACOE requires that sand discharges cease in a buffer zone surrounding the spawning area and that the buffer zone remain in place until the next predicted grunion run to allow eggs to hatch, and surveys show that no subsequent spawning has occurred in the same area. Discharge into documented spawning areas may resume only after approval by the resource agencies. This will avoid impacts to grunion spawning and allow onshore discharge to continue in areas where spawning has not occurred. Special Condition #5 requires compliance with these provisions.

An issue in southern California and specifically within Agua Hedionda Lagoon is the eradication program for the invasive green alga, *Caulerpa taxifolia* (referred to hereafter as Caulerpa), that has been discovered within inner Agua Hedionda Lagoon. On August 7, 2000 the Executive Director issued an emergency permit (6-00-99-G) regarding the eradication of Caulerpa found in a small area of the inner lagoon. The program included placement of tarps over the treated sectors and capping the areas to preclude regrowth.

The Commission finds its continuing involvement in future dredges will assure that current issues associated with the maintenance dredging will be addressed in a timely way so that future projects can be found consistent with the provisions of the Coastal Act and Agua Hedionda LUP.

Caulerpa is a tropical green marine alga that is popular in the aquarium trade because of its attractive appearance and hardy nature. In 1984, this seaweed was introduced into the northern Mediterranean. From an initial infestation of about 1 square yard it grew to cover about 2 acres by 1989, and by 1997 blanketed about 10,000 acres along the coasts of France and Italy. Genetic studies demonstrated that those populations were from the same clone, possibly originating from a single introduction. This seaweed spreads asexually from fragments and creates a dense monoculture displacing native plant and animal species. In the Mediterranean, it grows on sand, mud and rock surfaces from the very shallow subtidal to about 250-ft depth. Because of toxins in its tissues, *Caulerpa* is not eaten by herbivores in areas where it has invaded. The infestation in the Mediterranean has had serious negative economic and social consequences because of impacts to tourism, recreational diving, and commercial fishing.

Because of the grave risk to native habitats, in 1999 *Caulerpa* was designated a prohibited species in the United States under the Federal Noxious Weed Act. AB 1334, enacted in 2001 and codified at California Fish and Game Code Section 2300, forbids possession of *Caulerpa*. In June 2000, *Caulerpa* was discovered in Agua Hedionda Lagoon in San Diego County, and in August of that year an infestation was discovered in Huntington Harbor in Orange County. Genetic studies show that this is the same clone as that released in the Mediterranean. Other infestations are likely. Although a tropical species, *Caulerpa* has been shown to tolerate water temperatures down to at least 50° F. Although warmer southern California habitats are most vulnerable, until better information is available, it must be assumed that the whole California coast is at risk. All shallow marine habitats could be impacted.

In response to the threat that *Caulerpa* poses to California's marine environment, the Southern California *Caulerpa* Action Team, SCCAT, was established to respond quickly and effectively to the discovery of *Caulerpa* infestations in Southern California. The group consists of representatives from several state, federal, local and private entities. The goal of SCCAT is to completely eradicate all *Caulerpa* infestations.

Eelgrass (*Zostera marina*) is an aquatic plant consisting of tough cellulose leaves that grow in dense beds in shallow, subtidal or intertidal unconsolidated sediments. Eelgrass is considered worthy of protection because it functions as important habitat for a variety of fish and other wildlife, according to the Southern California Eelgrass Mitigation Policy (SCEMP) adopted by the National Marine Fisheries Service (NMFS), the U.S. Fish and Wildlife Service (USFWS), and the California Department of Fish and Game (CDFG). For instance, eelgrass beds provide areas for fish egg laying, juvenile fish rearing, and waterfowl foraging. Sensitive species, such as the California least tern, a federally listed endangered species, utilize eelgrass beds as foraging grounds. If *Caulerpa* were allowed to reproduce unchecked within the outer basin, sensitive eelgrass beds and the wildlife

that depend upon them would be adversely impacted. Therefore, eradication of Caulerpa would be beneficial for native habitat and wildlife.

At this time, it appears that the Caulerpa infestation in Agua Hedionda lagoon has been successfully eradicated. However, there are still concerns about its reemergence. If Caulerpa is present, any project that disturbs the bottom could cause its spread by dispersing viable tissue fragments. In order to assure that the proposed project does not cause the dispersal of Caulerpa, the Commission imposes Special Condition #6. Special Condition #6 requires the applicant, prior to commencement of development, to survey the project area (which includes the dredged area, anchoring areas, and any other areas where the bottom could be disturbed by project activities) for the presence of Caulerpa. If Caulerpa is found to be present in the project area, then prior to commencement of any dredging, the applicant must provide evidence that the Caulerpa within the project site has been eradicated (the applicant could seek an emergency permit from the Executive Director to authorize the eradication) or that the dredging project has been revised to avoid any disturbance of Caulerpa. If revisions to the project are proposed to avoid contact with Caulerpa, then the applicant shall consult with the local Coastal Commission office to determine if an amendment to this permit is required.

Special Condition #2 also requires the proposed deposition material to be tested in compliance with Corps of Engineers Permit No. 200100328-SKB, which sets the standards for grain size, total organic carbon, and bulk sediment chemistry and requires compliance with State water quality standards. Results must indicate that all material proposed for beach deposition will not contain any contaminants at levels of concern or that would exceed State water quality standards.

Special Condition #6 memorializes the applicant's proposal to perform the maintenance dredging (up to 500,000 cubic yards) during the 2008/2009 dredge cycle only. Future dredge and beach deposition will require review and approval by the Commission through a separate coastal development permit. As conditioned, the Commission can assure future beach replenishment efforts will meet the requirements of Chapter 3 of the Coastal Act.

The proposed project is the least environmentally damaging feasible alternative. The no project alternative is infeasible because it would disrupt operation of the existing power plant. It would also forego the opportunity to replenish sand on nearby public beaches. The proposed project is preferable to a multi-year project because it ensures that, if the dredging is discovered to cause adverse effects, that any future dredging would be modified to address those effects. As explained above, the proposed locations and amounts of sand deposition take into account both beach usage and the direction of sediment transport in the vicinity of the project.

In summary, the proposed dredging operation is necessary to maintain the necessary tidal prism in the outer lagoon to assure effective operation of the power plant. Similar dredge operations have occurred over many years. The proposed dredging is a permitted use under Section 30233 of the Act. With the attached special conditions, impacts on

sensitive species will be reduced to the maximum extent feasible or avoided, consistent with Sections 30230, 30231 and 30233 of the Coastal Act.

5. Local Coastal Planning. Section 30604 (a) requires that a coastal development permit shall be issued only if the Commission finds that the permitted development will not prejudice the ability of the local government to prepare a Local Coastal Program (LCP) in conformity with the provisions of Chapter 3 of the Coastal Act. In this case, such a finding can be made.

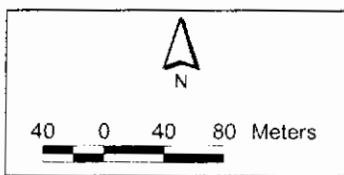
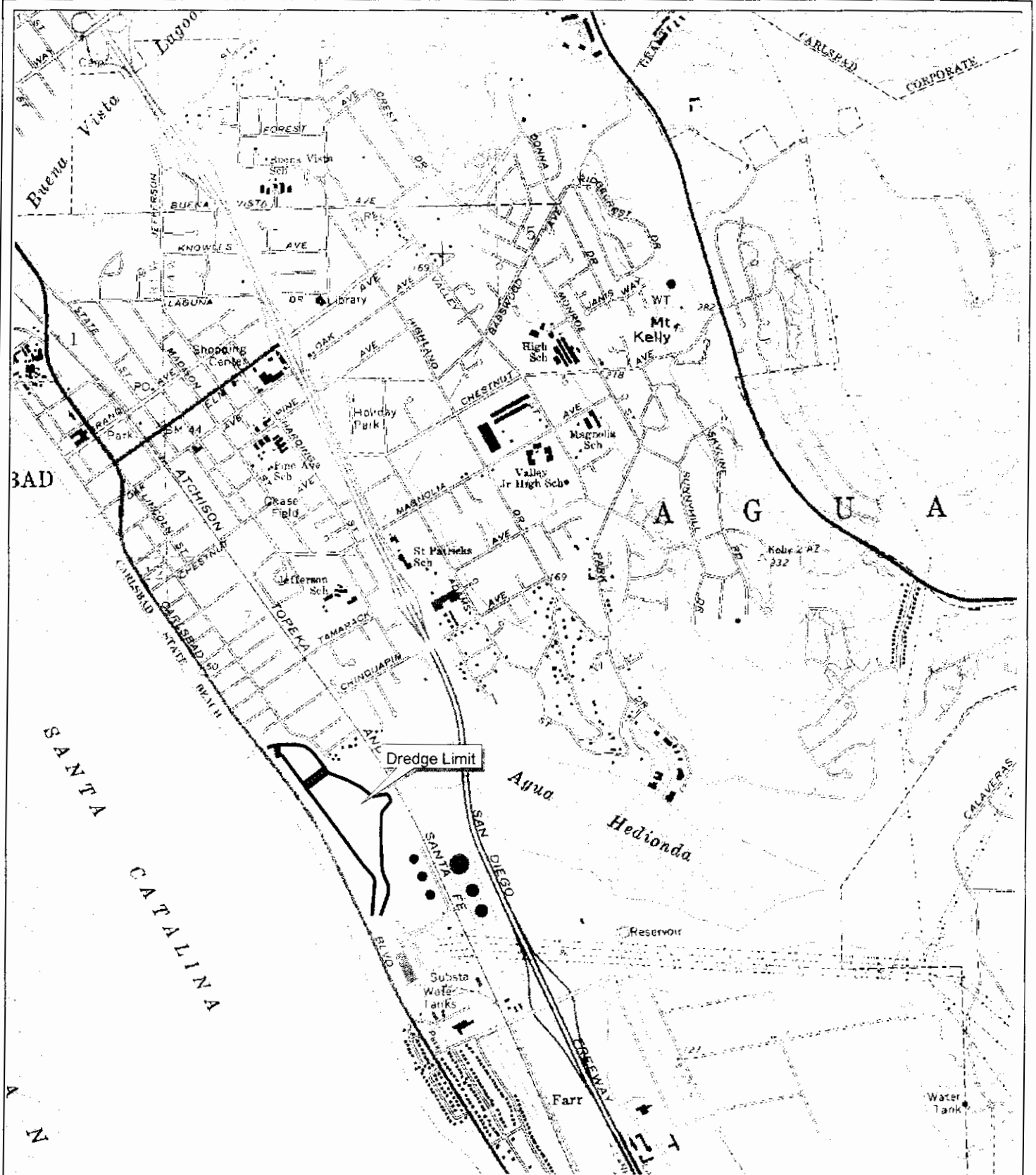
The project area is zoned and planned in the certified Carlsbad LCP for Open Space and Recreation Uses. As conditioned, the proposed project is consistent with provisions of these designations and past Commission actions on the site. Additionally, Policy 3.3 of the Agua Hedionda LUP provides that maintenance dredging must be performed in a manner consistent with the applicable sections of the Coastal Act. All dredging activities must be permitted by the Army Corp of Engineers with review by appropriate agencies, including the Department of Fish and Game, U.S. Fish and Wildlife Service, etc. The project has been reviewed by the agencies and found to be consistent with their requirements. Therefore, approval of the project, as conditioned, is consistent with Chapter 3 policies of the Coastal Act and will not prejudice the ability of the City of Carlsbad to obtain a fully certified LCP for the Agua Hedionda Lagoon segment.

6. Consistency with the California Environmental Quality Act (CEQA). Section 13096 of the Commission's administrative regulations requires Commission approval of a coastal development permit or amendment to be supported by a finding showing the permit or permit amendment, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect which the activity may have on the environment.

The proposed project has been conditioned to be found consistent with the resource protection and recreation policies of the Coastal Act and the Carlsbad LCP. Mitigation measures include placement of sand on area beaches outside of the summer season, restriction of dredging to periods outside of least tern and grunion breeding periods, surveys to assure Caulerpa is not present and performance of mitigation if it is determined by the post-construction eelgrass survey that there has been a loss of eelgrass habitat. As conditioned, there are no feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impact which the activity may have on the environment. Therefore, the Commission finds that the proposed project, as conditioned to mitigate the identified impacts, is the least environmentally damaging feasible alternative and is found consistent with the requirements of the Coastal Act to conform to CEQA.

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 two 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 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.



Project Vicinity Map
 Agua Hedionda Lagoon Post-Dredge Eelgrass Sur
 Image Source: USGS San Luis Rey, CA 7.5' Quadrangle

EXHIBIT NO. 1
APPLICATION NO.
6-08-047
Location Map

Merkel &