CALIFORNIA COASTAL COMMISSION
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| Staff: | Toni Ross-SD |
| Staff Report: | November 20, 2006 |
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REGULAR CALENDAR
STAFF REPORT AND PRELIMINARY RECOMMENDATION

Application No.: 6-06-070

Applicant: California Department of Transportation Agent: Bruce April

Description: Conduct geotechnical studies (test borings) to evaluate subsoil conditions at the Interstate 5 bridge structures crossing Buena Vista Lagoon, Aqua Hedionda Lagoon and Batiquitos Lagoon.

Site: Three Interstate 5 bridges that cross Buena Vista Lagoon (South of Vista Way), Agua Hedionda Lagoon (North of Cannon Road) and Batiquitos Lagoon (North of La Costa Ave), City of Carlsbad, San Diego County.

Substantive File Documents: Certified City of Carlsbad LCP; Caltrans District Biologist

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STAFF NOTES:

Summary of Staff's Preliminary Recommendation:

Staff is recommending approval of the proposed project with conditions. California Department of Transportation (Caltrans) is proposing to conduct a geotechnical study, including a series of open-water test borings to determine the subsoil conditions at bridges over-passing three lagoons located in the City of Carlsbad. Concerns raised are public access issues, possible unforeseen impacts to water quality in the lagoon due to spillage, and noise and vibration impacts to marine organisms. Special conditions regarding project modifications and seasonal restrictions on work are recommended. Buena Vista, Agua Hedionda, and Batiquitos lagoons are all within the Commission's area of original coastal development permit jurisdiction, and Chapter 3 of the Coastal Act is the standard of review. As conditioned, all potential adverse impacts on coastal resources are addressed to assure consistency of the development with Chapter 3 policies of the Coastal Act.

Standard of Review: Chapter 3 policies of the Coastal Act.

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I. PRELIMINARY STAFF RECOMMENDATION:

The staff recommends the Commission adopt the following resolution:

**MOTION:** ***I move that the Commission approve Coastal Development Permit No. 6-06-70 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. Project Modifications. Only that work specifically described in this permit is authorized. Any additional work requires separate authorization from the Executive Director. **If, during construction, site conditions warrant changes to the project (i.e. access issues), the San Diego District office of the Coastal Commission shall be contacted immediately prior to any changes to the project in the field.**

2. Spill Contingency/Accidental Discharge. During all phases of geotechnical borings the applicant shall comply with all aspects of the site specific Spill Contingency Plan dated September 29, 2006, including the following requirements:

a. In the event that a spill or accidental discharge of drilling fluids occurs during drilling operations, all construction shall cease and shall not recommence except as provided below:

b. Following discovery of the spill or accidental discharge of drilling fluids, the applicant shall immediately implement the above stated Spill Contingency Plan. No work shall continue until all spilled fluids have been contained and/or removed and measures taken to prevent a recurrence consistent with the approved contingency plan. If the spill or accidental discharge results in a change to the approved project description or to the scope of the impacts to resources, the permittee shall submit to the Executive Director a revised project and restoration plan prepared by qualified professional(s) that provides for: (1) necessary revisions to the proposed project to avoid further spill or accidental discharge of fluids; and (2) restoration of the area(s) affected by the spill or accidental discharge to pre-project conditions. The revised project and restoration plan shall be consistent with any applicable requirements of the US Fish and Wildlife Services (USFWS), California Department of Fish and Game (DFG) and/or San Diego Regional Water Quality Control Board (SDRWQCB). The revised project and restoration plan shall be processed as an amendment to the coastal development permit. The test borings may not recommence until after an amendment to this permit is approved by the Commission, unless the Executive Director determines that no amendment is legally required.

3. Construction Schedule. **PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall submit to the Executive Director for review and written approval a final construction schedule identifying the project start and stop dates. The schedule shall include the following modifications:

a. Shorebird Breeding Season:

1. The schedule shall indicate that work will not occur during the shore bird breeding season, between February 15th and August 31st in any year.

2. Work may be permitted during the shore bird breeding season if the applicant has specific documented approval with justifiable reasoning from DFG and USFWS.

b. The schedule shall indicate that no work will occur within daylight hours on weekends and holidays during the summer season, starting on Memorial Day and ending Labor Day weekend.

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

4. Other Permits. **PRIOR TO THE COMMENCEMENT OF CONSTRUCTION**, the permittee shall provide to the Executive Director copies of all other required discretionary permits (such as City of Oceanside, U.S. Fish and Wildlife Service, Regional Water Quality Control Board and the California Department of Fish and Game) for the development authorized by CDP #6-06-070. The applicant shall inform the Executive Director of any changes to the project required by other state or federal agencies. Such changes shall not be incorporated into the project until the applicant obtains a Commission amendment to this permit, unless the Executive Director determines that no amendment is legally required.

IV. Findings and Declarations.

The Commission finds and declares as follows:

1. Detailed Project Description.

Caltrans proposes to conduct test borings to evaluate subsoil conditions at Interstate 5 bridges crossing Buena Vista, Agua Hedionda and Batiquitos Lagoons. The results will be used to evaluate alternative bridge replacement designs for the North Coast Interstate 5 (I-5) Corridor Project. This is a project currently in the planning stages at Caltrans and includes additional general-purpose lanes, an HOV/Managed Lane facility, and operational improvements on Interstate 5 from La Jolla Village Drive in the City of San Diego to Vandergrift Boulevard in the City of Oceanside. However, this permit authorizes only the geotechnical boring component, and does not in any way suggest approval of the I-5 expansion project.

There is an additional drilling site in the project proposal located in the Alta Loma Creek; however the City of Oceanside holds jurisdiction for this area. Aside from requiring proof of a permit from the City of Oceanside, this component of the project will not be further discussed in the contents of this staff report. Each of the open-water drillings will take approximately eight hours, and each site will take approximately one week to complete. The drilling will not require access through any sensitive habitat as all work will be staged and performed from the bridge overpasses. A total of 2.28 square feet of temporary impacts are expected in lagoon soft bottom habitat. No permanent impacts are proposed or anticipated.

The test borings will be carried-out by setting a 6-inch casing through the bridge deck and down into the below water substrate approximately 5 feet to generate a suitable seal, preventing any spilling from the drilling operations to reach the lagoon water. Once the casing is sealed into the subsurface, the drillers will advance the drill tools inside the casing. A wet rotary boring with a diameter of 4-inches will be extended to a maximum depth of 200-feet. Drilling fluid of Bentonite mixed with water will be used during the boring. The Bentonite mixed drilling fluid is pressure pumped through the inside of the drill rods and out from holes in the drill bit as drilling ensues. The drilling fluid captures the soil cuttings generated at the bit as the fluid is circulated and the borehole is advanced

downward. This circulation of the drilling fluid returns the cuttings through the annular space between the drill rods and the casing wall. A drilling fluid circulation tank will be set up on the bridge deck to contain and control the fluid. At each of the three bridge crossings, four borings will be drilled through the bridge deck into open waters. These boreholes will be backfilled with a Bentonite-cement slurry mix from the bottom of the borings to within approximately 10 feet of the existing lagoon bottom. Borings will be flushed with clear water to dilute any drilling fluid residues. All drill cuttings and soils will be contained in 55-gallon secured drums and removed from the site each day. These soils will then be transported to Sacramento for proper treatment and disposal. Absorbent pads will be placed in drainage pathways to contain any spilling.

Due to traffic control restrictions, the borings, as proposed, will be drilled during the night between the hours of 9 p.m. and 5 a.m. The project will require shutting down at least one lane of traffic. The project will take between nine months and a year, depending on equipment and personnel availability and traffic and weather restrictions.

The City of Carlsbad has a certified LCP and issues coastal development permits within its jurisdiction. However, the subject sites are all located within areas of the Commission's original permit jurisdiction, and the standard for review for this development is Chapter 3 policies of the Coastal Act.

2. Public Access. The following policies are most pertinent to the proposed development, and state, in part:

**Section 30604(c)**

Section 30604(c) Every coastal development permit issued for any development between the nearest public road and the sea or the shoreline of any body of water located within the coastal zone shall include a specific finding that the development is in conformity with the public access and public recreation policies of Chapter.

**Section 30211**

Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.

The applicant has proposed to conduct all geotechnical borings from the bridge over-pass; therefore public access to the surrounding lagoon trails shall not be interrupted. However, the staging of the boring equipment and personnel does limit the existing lanes of traffic on the Interstate 5 freeway. This freeway is the main north/south coastal access freeway for San Diego County, and is heavily congested with local community and visiting tourists during summer months. The design of the project requires closure of one lane of traffic during the boring activity. The applicant has stated that the surveys will primarily be conducted during the hours of 9 p.m. to 5 a.m. where feasible. While most of the work will occur in late evening and early morning hours, the Commission is concerned that in times that this curfew is not feasible, traffic congestion due to the

reduction in traffic lanes may cause serious pubic access issues, especially if work were to occur during prime beach visiting hours on weekends and holidays during the summer months. To address this issue, Special Condition #3 states that the applicant will not be permitted to conduct the geotechnical survey during the daylight hours on weekends and holidays during the summer season to assure safe access during an already highly limited period. As conditioned, the project is consistent will all applicable Chapter 3 policies of the Coastal Act.

3. Water Quality & Marine Resources. Sections 30230, 30231, 30232 and 30233of the Coastal Act apply to the proposal and state in part:

> **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.
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> **Section 30232**
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> Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.
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> **Section 30231**
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> The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

Agua Hedionda, Buena Vista, and Batiquitos are all coastal lagoons with various amounts of tidal influence. Batiquitos and Buena Vista are both ecological reserves. Aqua Hedionda hosts a variety of incumbents including mariculture, a power plant and a private marina.

Aqua Hedionda was originally only occasionally open to the sea. An inlet channel of rip rap jetties, which keeps the mouth permanently open, was built in 1954. Eelgrass has been recorded historically, as has numerous sensitive upland and wetland plant and animal species including Coastal Sage Scrub and Belding's Savannah sparrows. Neither

Eel grass nor any listed species of shorebird were documented during the biological survey for the subject development.

Buena Vista Lagoon is a primarily freshwater lagoon with circulation and flushing limited by a weir and by road fills for I-5 and Hill Street. Buena Vista is a State Ecological Reserve known to shelter a variety of sensitive species, including California Least tern, Belding's savannah sparrow and Light-Footed Clapper rail. Habitats include seasonal sand and mud flats, salt marsh, and fresh water marsh. Light Footed Clapper rail and Belding's Savannah sparrow were documented during the biological survey.

Batiquitos Lagoon is a restored ecological reserve with features designed to promote shorebird breeding. Batiquitos is often dredged to maintain a permanently open mouth and occupies a total of 610 acres. Sensitive species include eelgrass, Belding's Savannah sparrow and California Least tern. Habitats include estuarine flats, salt marsh, brackish marsh and riparian and upland vegetation. California Least tern, Light-Footed Clapper rail, and Belding Savannah sparrow were all documented during the biological survey. Given the sensitive nature of the lagoons, as described above, potential impacts resulting from the subject development could be significant.

Drilling Fluids Leakage

The leakage of hydraulic fluids through old hoses or machinery can occur when equipment is poorly maintained. The introduction of any fuels, oils, hydraulic fluids, etc. could be potentially harmful to the inhabitants of the lagoon if not properly managed during field work. This is further exacerbated by the lower mixing rates found in lagoon habitats. Any fluid introduced to the water will potentially require more time to dilute and can have greater possible impacts to flora and fauna. To prevent this, the applicant has proposed the use of absorbent booms or pads in the deck drains or drainage avenues that lead toward the lagoons.

Drilling fluids generated from drilling through the bridge deck will be contained in a mud-mixing tank. The drilling fluid will be brought to the surface using a conductor casing in a closed system. The mixing tank, built of steel, is rectangular in shape and open on top. It holds a maximum of 150 gallons of drilling fluid. Standard practice is to leave about 6 inches of freeboard in the tank during recirculation to prevent accidental spills. The applicant proposes to adhere to this standard, as well as have the tank visually monitored while filling and during drilling operations. Again, absorbent pads will be placed in drainage ways to prevent any spillage from reaching the lagoon waters.

During drilling operations, Bentonite drilling fluid will remain within the casing. Before the casing is pulled it will be flushed using clean water. If not properly managed during the geotechnical field work, some fluid could escape into the lagoon, and adversely affect the respiratory system of the various fish species that occupy these lagoons. Additionally a vertical fracture can be created during drilling and leak drilling fluids into the lagoon soil. The applicant has proposed that if a vertical fracture or leakage through a permeable

section occurs, the use of drilling fluid will be immediately replaced with clear water until fracture is drilled through and sealed with steel casing.

A spill contingency plan has been developed for this project and includes methodology for eliminating any leakage or spillage of fuel, hydraulic fluid, drilling fluids, as well as emergency procedures, and reporting guidelines should a spill occur. Preventative measures include refueling outside of sensitive areas, and absorbent pads placed to contain any spills from the bridge to the lagoon water below.

In the case of a catastrophic spill, mitigation measures proposed by the applicant are sufficient to clean up any drilling fluid, Bentonite, or concrete slurry spill. Again while this situation is unlikely, the sensitivity of the region requires these measures to be prepared. Special Condition #1 requires that any deviation from the original construction plan prompts immediate notification to the San Diego District Coastal Commission Office, prior to changes to the project in the field. Special Condition #2 addresses measures necessary in the event of an accidental spill. In addition, the condition requires in the event of a spill or accidental discharge of the drilling fluid that all construction stop and that the Spill Contingency Plan be implemented. No work is authorized to recommence until the spill is contained and/or removed and effective measures are in place to assure the accidental spill will not recur. In addition, if the spill results in the need to revise the proposed development, the condition prohibits further work from occurring until the Commission has approved an amendment for a revised project and restoration plan unless the Executive Director determines an amendment is not necessary. While it is not anticipated to occur, if a frac-out does occur resulting in the release of the drilling fluid into and of the lagoons, the Spill Contingency Plan will assure that any spill will be immediately cleaned-up and the site restored to its pre-spill condition.

Noise and Vibration

Beyond the potential for spillage, there are two main concerns regarding the protection of marine organisms during the proposed boring project. The noise created from the equipment used during borings has been regarded as negligible. The ambient level of noise on Interstate 5 is averaged at 67dBA. The predicted levels during the geotechnical borings are between 70-80 dBA. As noted above, the location of the boring sites are closely associated with shorebird nesting grounds for two of the three lagoons. Proximity of these sites ranges from immediately adjacent to 1,600 feet. Although no protected species were observed during the biological survey for Buena Vista Lagoon, past biological surveys have found a number of migratory birds, including the California Least tern. Nesting and foraging sites within Buena Vista lagoon may have been unnoticed due to the density of the surrounding vegetation. Further, while the biological report for the project suggests the increase in noise level will not be significant, it is really not known what impacts noise generated from the boring project will have on nearby nesting bird species. However, load noises can lead to the abandonment of eggs and/or fledglings, necessitating further protection. Therefore, Special Condition #3 limits the applicant from conducting any geotechnical borings between the dates of February 15th and August 31st, the characteristic breeding season for most shorebirds. If

constraints of the project require the applicant to conduct borings within the breeding season, the applicant must submit written approval for such from both DFG and the USFWS.

A concern of Fish and Wildlife Services is that of the effect of vibrations on the swim bladders of fish. A high level of vibration can cause the rupture of the swim bladder, a buoyancy controlling organ, and subsequently the death of the fish. The Caltrans vibration manual only has numbers for Caisson drilling, not geotechnical drilling. Caisson drilling utilizes a 2-4 foot diameter drill as opposed to the 2-3 inch drill proposed by the applicant. The proposed vibration would result in vibrations orders of magnitude less than a boat motor. Therefore, the Fish and Wildlife Service is satisfied that the geotechnical drilling would not have an adverse effect on the fish in the lagoon.

**Section 30233(a)**

(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:

5) 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.

(c) In addition to the other provisions of this section, diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary. Any alteration of coastal wetlands identified by the Department of Fish and Game, including, but not limited to, the 19 coastal wetlands identified in its report entitled, "Acquisition Priorities for the Coastal Wetlands of California", shall be limited to very minor incidental public facilities, restorative measures, nature study, commercial fishing facilities in Bodega Bay, and development in already developed parts of south San Diego Bay, if otherwise in accordance with this division.

As noted above, Section 30233 of the Coastal Act strictly limits the dredging or filling of wetlands to only a few uses. In addition, Agua Hedionda and Batiquitos Lagoons are among the coastal wetlands identified by the Department of Fish and Game for acquisition and are therefore subject to the stricter limits specified in Section 30233(c). In the case of the proposed development, the geotechnical test borings are a permitted use in lagoons, and associated wetlands because they qualify as very minor incidental public facilities. While the survey is primarily to establish potential bridge locations for the Interstate 5 expansion, these borings will also assess the safety of the current bridges and is thus consistent with all applicable policies of the Coastal Act.

While the project is a permitted use under 30233, this Coastal Act policy also requires that if unavoidable impacts to wetlands do occur, that mitigation be provided. Because the boring holes will not be filled to water level, allowing the lagoons' natural soft bottom to fall in on itself, all proposed impacts will be temporary. The open-water borings will cause approximately 0.19 square feet of temporary impacts to the lagoon soft bottom for

each boring. The total impacts for the study are 2.28 sq. ft. of temporary impacts. Using a steel casing as for seal, all drilling fluid, and soil cuttings will be contained to the specific drilling site. If spillage or accidental discharge does occur, Special Condition #2 requires the applicant to implement the approved Spill Contingency Plan and if the project needs to be modified, submit an amendment to the CDP. This amendment is required by condition #2 to include a plan for restoration. By drilling through the bridge deck, access through the upland habitats would be eliminated. All work would be staged from the bridges, thus no trampling of vegetation is anticipated. No further impacts are predicted.

In summary, the applicant has submitted information that determined the noise level created from drilling to be analogous to the ambient noise created by daily traffic. The vibrations created by the drilling process will not be detectable within the water column more than a few inches from the drill itself, and should not have any effects on fish and other wildlife species utilizing the lagoon. The design of the project isolates all work to the bridges, thus no impacts to sensitive habitat are predicted. Thus, using the mitigation measures proposed by the applicant, in conjunction with the proposed special conditions, all adverse impacts to coastal resources have been minimized. The proposed development is therefore consistent with the Chapter 3 policies of the Coastal Act.

4. Local Coastal Planning. Section 30604(a) also 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. Carlsbad has a certified LCP; however, the Agua Hedionda segment is a deferred certification area. All the proposed work is contained within the Coastal Commission's original jurisdiction and Chapter 3 policies of the Coastal Act remain the standard. Previous findings have demonstrated that the project, as conditioned, is consistent with all cited Coastal Act policies. Therefore, the Commission finds that approval of the project will not prejudice the ability of the City of Carlsbad to continue to implement its fully certified LCP.

5. Consistency with the California Environmental Quality Act (CEQA).
The proposed project has been conditioned in order to be found consistent with the Chapter 3 policies of the Coastal Act. Mitigation measures, including conditions addressing work during breeding season will minimize all adverse environmental impacts. 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 is the least environmentally-damaging feasible alternative and is 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.

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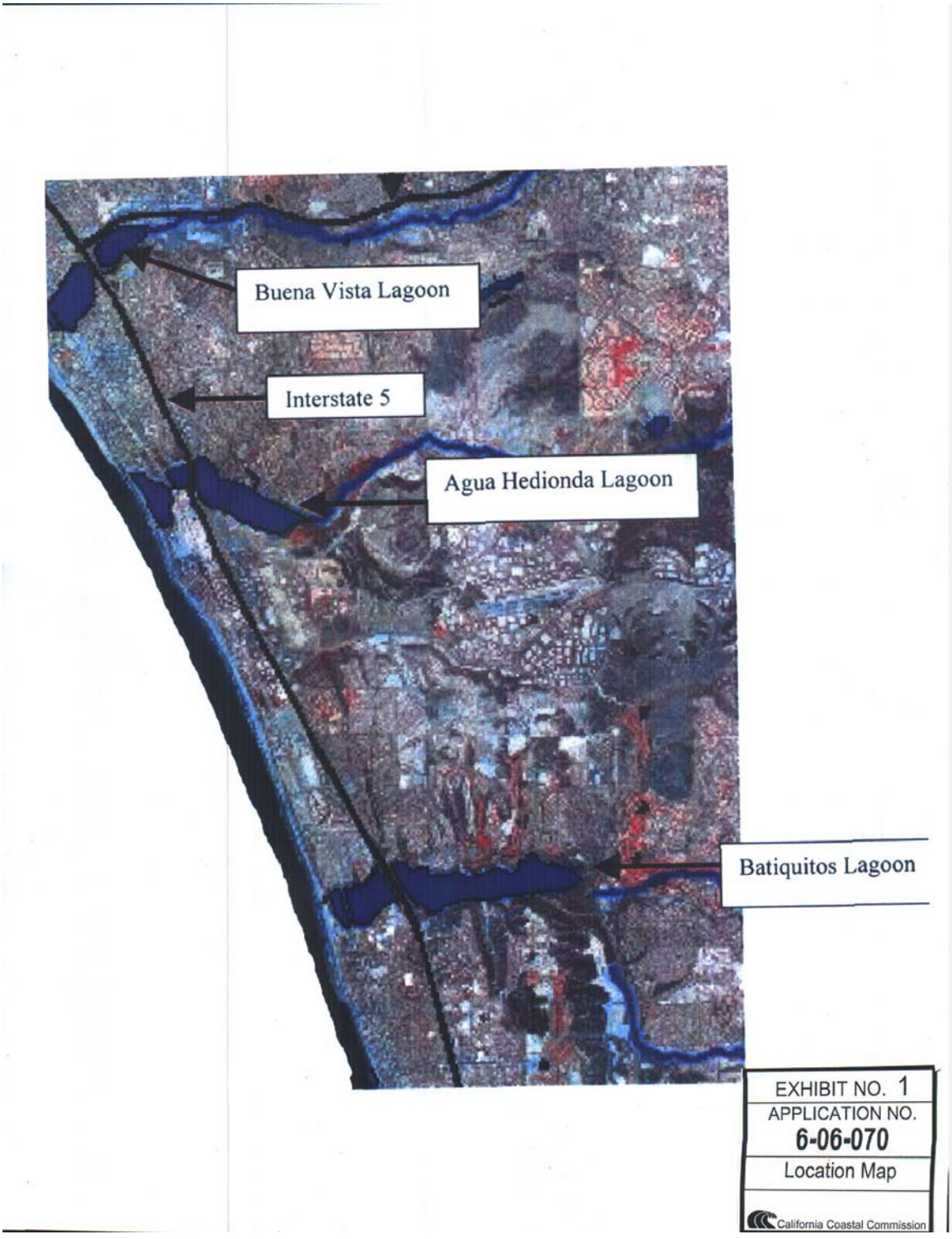
Buena Vista Lagoon
Interstate 5
Agua Hedionda Lagoon
Batiquitos Lagoon
EXHIBIT NO. 1
APPLICATION NO.
6-06-070
Location Map
California Coastal Commission