CALIFORNIA COASTAL COMMISSION
45 FREMONT STREET, SUITE 2000
SAN FRANCISCO, CA 94105-2219
VOICE AND TDD (415) 904-5200

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STAFF REPORT AND RECOMMENDATION

ON CONSISTENCY CERTIFICATION

Consistency Certification No.	CC-007-06
Staff:	MPD-SF
File Date:	1/30/2006
3 Months:	4/30/2006
6 Months:	Extended until Feb. 2009
Commission Meeting:	1/9/2009

APPLICANT: **City of Morro Bay and Cayucos Sanitary District ("Morro Bay")**

PROJECT LOCATION: Morro Bay-Cayucos Wastewater Treatment Plant, City of Morro Bay, San Luis Obispo County, and offshore waters (Exhibit 1)

PROJECT DESCRIPTION: Reissuance of Secondary Treatment Waiver

FEDERAL AGENCY AND PERMIT: EPA (Environmental Protection Agency) Reissuance, under Section 301(h) of the Clean Water Act, of a modified National Pollutant Discharge and Elimination System (NPDES) Permit for Wastewater Treatment Plant Discharges

SUBSTANTIVE FILE DOCUMENTS: See page 39.

Staff Recommendation: Concurrence. Motion is on page 11.

[**Staff Note**: The Central Coast Regional Water Quality Control Board (RWQCB) was originally scheduled to act on Morro Bay's waiver in Spring of 2006. The matter was held over for several years, pending additional analysis of endangered species impacts. EPA subsequently prepared an Endangered Species Act Biological Evaluation, which included recommendations for additional measures to protect listed species. This evaluation, and the

U.S. Fish and Wildlife Service's concurrence with it, were published in late 2007, and Morro Bay has agreed to implement the measures. On December 4, 2008, the RWQCB issued an order approving the reissuance of the waiver, and also on December 4, 2008, Morro Bay signed a settlement agreement with the RWQCB, which includes a revised schedule for converting to full secondary treatment by March 31, 2014. The subject waiver is still needed under the Clean Water Act, to cover Morro Bay's discharges for the interim period until full secondary treatment is implemented.]

EXECUTIVE SUMMARY

The City of Morro Bay and Cayucos Sanitary District (hereinafter referred to as "Morro Bay," or occasionally, "MBCSD") has submitted a consistency certification for the renewal of its EPA-issued secondary treatment waiver. Under the Clean Water Act, wastewater discharges from publicly owned treatment works (POTWs) are required to receive at least secondary treatment. However, Clean Water Act Section 301(h), sometimes referred to as the "ocean waiver" provision of the Clean Water Act, gives the EPA Administrator (with the concurrence of the RWQCB (Regional Water Quality Control Board)) the authority to grant a waiver from otherwise applicable secondary treatment requirements. Such a waiver would authorize Morro Bay to continue to discharge effluent receiving less than full secondary treatment in terms of suspended solids and biochemical oxygen demand for the period covered by the waiver. The waivers need to be renewed every five years. Morro Bay has agreed to upgrade to full secondary treatment of its discharges. However, due to the length of time needed to complete the upgrade, a continuing waiver is needed for the interim period. The Commission has twice concurred with Morro Bay's previous consistency certifications for its waivers (CC-123-98 and CC-88-92).

Morro Bay's discharges (i.e., Morro Bay's wastewater treatment plant discharges) are relatively small compared to those of major California POTWs; for example Morro Bay's discharges are less than 0.5% of the volume of any of the large California POTWs historically seeking waivers (e.g., Orange County, and the City of San Diego). Moreover, there is little industry in Morro Bay, especially when compared to these major dischargers. EPA and the RWQCB have both reviewed Morro Bay's application. EPA's independent Technical Evaluation has determined Morro Bay to meet the applicable Clean Water Act standards for a waiver, and the RWQCB staff's analysis concludes that the discharges would meet California Ocean Plan standards. More importantly, like Goleta and Orange County, Morro Bay has agreed to upgrade to full secondary treatment. Morro Bay has entered into a settlement agreement with the RWQCB that would assure completion of secondary treatment facilities by March 31, 2014.

Questions were raised during EPA's and the RWQCB's reviews over possible links between Morro Bay's discharges and declines in sea otter populations, which are susceptible to domoic acid poisoning caused by toxic algal blooms, and *Toxoplasma gondii*, a parasite transferred to the marine ecosystem through both point- and non-point sources through (primarily) cat feces. The latter condition is a major cause of mortality in sea otters and is found in otters in the

Morro Bay offshore area. EPA's further analysis of this issue included studies to compare Morro Bay's discharges with non-point source runoff. EPA concluded that Morro Bay's discharges are not a significant transport mechanism, and that "there is no evidence to support a finding that the subject discharge releases any measurable quantity of oocysts into the marine environment." The RWQCB staff's opinion is that these pathogens originate from non-point sources.

The U.S. Fish and Wildlife Service concurred with EPA's conclusion of no jeopardy to the species, although it cautioned that "there are currently no analytical methods to detect the presence of oocysts in wastewater" (Exhibit 10). The Fish and Wildlife Service's conclusions are also based in part on Morro Bay's commitments to pursue tertiary treatment. The Fish and Wildlife Service's concurrence with EPA's conclusion of "no likely adverse effects" on the brown pelican and southern sea otter also presumes that Morro Bay will implement conservation measures, including a public outreach program to minimize the input of cat litter-box wastes into the sewer system, regular monitoring of nutrient loading from the facility's ocean outfall, and upgrade to at least full secondary or tertiary treatment by 2014. The RWQCB Order includes requirements for implementing the outreach program for cat litter, and for strengthening the monitoring of nutrient loadings. Morro Bay's commitment to pursue tertiary treatment is contained in a Settlement Agreement it signed with the RWQCB.

Monitoring results for the past 8 years and the available evidence about threats to sea otters support Morro Bay's claim that the discharges comply with secondary treatment waiver requirements and would not adversely affect marine resources. The stringent monitoring as required under Section 301(h) will be continued. EPA and the RWQCB staff accept Morro Bay's conclusions. Absent a waiver the Clean Water Act would require removal of 85% of suspended solids (SS) and biochemical oxygen demand (BOD). Morro Bay already regularly meets or is close to meeting secondary treatment standards for removal of SS and BOD. According to EPA's Technical Evaluation, annual removal efficiency for SS between 1998-2003 averaged 87% (ranging from 84 to 89%), and annual average BOD removal ranged from 81% to 83%, with an average of 82% removal. Morro Bay's most recent annual report shows similar or better removal rates, with a SS removal 94%, and a BOD removal of 86%. (2004-2006 rates are shown on page 36.)

Given Morro Bay's performance and monitoring results, as conditioned by the RWQCB, Morro Bay's commitment to upgrade to secondary (and possibly tertiary) treatment within a reasonable time period, and with continued stringent monitoring in place during the interim, the discharges would be consistent with the water quality, marine resources, commercial and recreational fishing, and public access and recreation policies (Sections 30230, 30231, 30234, 30234.5, 30213, and 30220) of the Coastal Act.

STAFF SUMMARY AND RECOMMENDATION:

I. Project Description. The City of Morro Bay and Cayucos Sanitary District ("Morro Bay") has requested a waiver under Section 301(h) of the Clean Water Act (the Act), 33 U.S.C. Section 1311(h), from the secondary treatment requirements contained in Section 301(b)(1)(B) of the Act, 33 U.S.C. Section 1311(b)(1)(B). The waiver is being sought for the Morro Bay-Cayucos Wastewater Treatment Plant (WWTP). The waiver would allow the discharge of wastewater receiving less-than-secondary treatment into the Pacific Ocean. The applicant has been operating under a Section 301(h) modified NPDES permit (number CA0047881) that was set to expire March 1, 2004. That permit remains current as it was "administratively extended" until action is taken on this current request. The applicant seeks to renew the existing 301(h) modified NPDES permit.

The Morro Bay-Cayucos WWTP is located in the northwest sector of the City of Morro Bay (Exhibits 1 & 2). The plant serves a population of approximately 13,300 in the City of Morro Bay and the nearby community of Cayucos. The treatment plant is designed for an average dry weather flow of 2.06 MGD (million gallons per day) and a maximum wet weather peak flow of 6.64 MGD. Peak seasonal dry weather flows are 2.36 MGD. Average annual flow is 1.2 MGD.

The WWTP provides treatment by a split stream process of physical and biological treatment. All wastewater flows through primary sedimentation basins. Approximately 1 MGD flows through secondary treatment facilities, including trickling filters, solids-contact, and secondary clarification. Secondary-treated wastewater is then blended with primary treated-wastewater and disinfected by chlorination, and then dechlorinated prior to discharge to the Pacific Ocean. Biosolids are anaerobically digested and dried, composted, and then trucked to the San Joaquin Valley for use as a soil conditioner. In 2007 blending occurred 2.2% of the year, (i.e., 97.8% of all wastewater coming into the plant was routed through the secondary treatment facilities).

Effluent is currently discharged to the Pacific Ocean through a 27-inch diameter outfall that terminates with a 170-foot long diffuser in approximately 50 feet of water, 2900 feet from shore. The diffuser achieves a minimum initial dilution of 133 parts seawater for every part effluent. The zone of initial dilution [ZID] is approximately 103 feet wide and 240 feet long.

Secondary treatment (defined in Clean Water Act implementing regulations 40 CFR Part 133) would require the following:

Secondary Treatment

SS: (1) The 30-day average shall not exceed 30 mg/l (milligrams per liter). (2) The 7-day average shall not exceed 45 mg/l. (3) The 30-day average percent removal shall **not be less than 85%**;

BOD: (1) The 30-day average shall not exceed 30 mg/l. (2) The 7-day average shall not exceed 45 mg/l. (3) The 30-day average percent removal shall **not be less than 85%**;

pH: The effluent limits for pH shall be maintained within the limits of 6.0 to 9.0 pH units.

State (California Ocean Plan (COP)) standards require removal of **75%** of suspended solids. The Ocean Plan does not have an effluent limitation for BOD; the comparable standard is for dissolved oxygen, and the Plan requires that "dissolved oxygen shall not at any time be depressed more than 10% from that which occurs naturally as a result of the discharge of oxygen-demanding waste materials."

On July 7, 2003, Morro Bay applied to the RWQCB for reissuance of the 301(h) waiver. During the RWQCB review process, Morro Bay agreed to upgrade to full secondary treatment of its discharges. However, due to the length of time needed to complete the upgrade, a continuing waiver is needed for the interim period. On December 4, 2008, the RWQCB approved the waiver by adopting Order No. R3-2008-0065 (accompanied by a settlement agreement with a timetable for conversion to secondary). Morro Bay's limits under the existing and proposed permit/waiver would be as follows (no waiver of pH standards is sought):

> *The Discharger shall, as a 30-day average,* ***remove at least 75% of Suspended Solids and 30% of BOD_5*** *from the influent stream before discharging wastewater to the ocean, except that the limit shall not be less than 60 mg/L. In addition, effluent shall not exceed the following limits:*

Constituent	*Unit of Measurement*	*Average Monthly*	*Instantaneous Maximum*
BOD_5	*mg/L*	*120*	*180*
	lbs/day	*2062*	*3092*
	kg/day	*936*	*1404*
Suspended Solids	*mg/L*	*70*	*105*
	lbs/day	*1203*	*1804*
	kg/day	*546*	*819*

II. <u>Procedures</u>. Under the 301h waiver process, EPA performs a technical review and, if the discharges meet 301h waiver standards, and EPA is willing to issue the waiver, it first issues a Tentative Decision to grant the 301(h) waiver of secondary requirements. EPA does not finalize its decision until after the RWQCB approves an NPDES permit and the Commission concurs with a consistency certification for the waiver (or (a) if the RWQCB objects, the State Water Resources Control Board approves the permit on appeal; and/or (b) if the Commission objects, the Secretary of Commerce overrides the Commission's objection on appeal).

III. <u>Morro Bay Waiver History.</u> The RWQCB has published a Fact Sheet summarizing the history of the plant, the waiver, and Morro Bay's decision to upgrade to full secondary treatment:

<u>Central Coast RWQCB - Attachment F – Fact Sheet</u>

<u>Regulatory History</u>. The treatment plant was originally constructed in 1954. It was upgraded in 1964 to a capacity of 1.0 MGD. In 1982, the outfall was extended further offshore to its current location. A new treatment plant was designed in 1981 to expand capacity and meet secondary treatment standards (discussed further below). Financial aid from state and federal agencies was not available. Consequently, the treatment plant's design was modified to provide biological treatment to a majority (~1 MGD), but not all, of the projected flow. In March 1983, Central Coast Water Board staff tentatively concurred that such a discharge would comply with applicable state laws, including water quality standards, and would not result in requirements for additional treatment, pollution control, or other requirements on any other point or non-point sources.

The treatment plant was upgraded from 1983 to 1985 to a peak seasonal dry weather flow of 2.36 MGD. In 1985, U.S. EPA approved a Clean Water Act Section 301(h) Modified NPDES Permit that waived full secondary treatment requirements for Biochemical Oxygen Demand (BOD5) and Total Suspended Solids (TSS). The Permit required 75% removal of TSS and included a 30-day average TSS effluent limit of 70 mg/L. The Permit required 30% removal of BOD5 and included a 30-day average BOD5 effluent limit of 120 mg/L.

The permit also required an extensive monitoring program. The monitoring program is discussed on page F129.

The Permit was first reissued in 1992. The second Permit reissuance process began in May 1997. Multiple discussions between the Discharger, Central Coast Water Board staff, and U.S. EPA staff resulted in several revisions to the permit and monitoring program, including a slight reduction in allowed mass-emissions of BOD5, TSS, and oil & grease; expanded biosolids reporting; revised benthic sampling locations; and a revised receiving water sampling program. In July 1998, staff again determined that the discharge would comply with applicable state laws, including water quality standards, and would not result in requirements for additional treatment, pollution control, or other requirements on any other pollutant sources. U.S. EPA issued a tentative decision to grant another modification of secondary treatment requirements in September 1998. The Central Coast Water Board approved the NPDES Permit, waiving secondary treatment requirements, in December 1998. The California Coastal

Commission determined the Permit was consistent with the Coastal Zone Management Act on January 13, 1999. U.S. EPA issued the Permit on January 26, 1999, which finally became effective March 1, 1999 (33 days after issuance).

Morro Bay/Cayucos Wastewater Treatment Plant is now one of only three remaining in California that operates under a 301(h)-modified permit. Others include Goleta Sanitary District and San Diego. In 2004, Goleta Sanitary District and the Central Coast Water Board entered an agreement requiring an upgrade to full secondary treatment standards by November 2014. Orange County Sanitation District, the largest in the nation to operate under a 301(h)-modified permit, recently elected to upgrade its treatment facilities to meet secondary treatment standards and forgo its 301(h) modified permit.

In anticipation of this Permit reissuance process, staff met with and sent a letter to the Discharger in January 2003 that requested it consider upgrading the treatment plant to meet federal secondary treatment standards and forgo their 301(h)-modified permit. In a March 20, 2003 response, City of Morro Bay Manager Robert Hendrix wrote:

> *"…we are using your correspondence as a catalyst for the formation of a long-term future policy on wastewater treatment. The [Morro Bay] City Council and [Cayucos] Sanitary District Board have selected members to serve on a subcommittee to work with your staff to consider a number of alternatives, formulate a draft policy or policies, and then return to the full legislative body in the late Spring of this year [2003] with a recommended course of action."*

In mid-2003, the subcommittee commissioned a study as to whether an equalization basin could be added to improve treatment efficiency and allow the discharge to meet secondary treatment standards. The study concluded that an equalization basin would not accomplish this goal.

The Discharger submitted an application for reissuance of its Clean Water Act Section 301(h) Modified NPDES Permit on July 7, 2003. It also requested a determination ("401 Certification") as to whether the discharge will comply with applicable state laws, including water quality standards, and will not result in requirements for additional treatment, pollution control, or other requirements on any other pollutant sources. In an August 26, 2003 letter, staff declined to make such a determination, instead deferring to the Central Coast Water Board to make such a determination through approval or disapproval of the NPDES Permit. This is more appropriate because of the complex legal issues, and it is a more comprehensive and publicly transparent process.

The existing permit expired on March 1, 2004, but continues in force until the effective date of reissuance, in accordance with 40 CFR Part 122.6.

In June 2004, after public opposition to the 301(h)-modified permit, the Discharger commenced a process to upgrade the treatment plant to meet secondary treatment standards. The Discharger hired Carollo Engineers to assist in development of a detailed timeline to implement the upgrade. Water Board staff and U.S. EPA chose to delay the Permit reissuance process until the timeline was developed. In April 2005, Carollo Engineers presented a 15-year timeline at a public meeting of the Discharger. After considering many public comments in opposition to the 15-year timeline, the Discharger rejected the 15-year timeline and directed Carollo Engineers to return with a timeline that was as "quick as possible."

In May 2005, Carollo Engineers returned and presented a 9.5-year timeline to the Discharger. The 9.5-year timeline was based on the shortest reasonable time necessary to select an engineering consultant, coordinate between the Discharger, develop a facility plan, obtain financing and permits, and design and construct the improvements. The 9.5-year timeline requires the Discharger to achieve full compliance with secondary treatment standards by June 23, 2015. The Discharger accepted the 9.5-year timeline and formally proposed it to Water Board staff on June 15, 2005. Water Board staff met with the Discharger July 15, 2005, and tentatively agreed to the 9.5-year timeline. Water Board staff and the Discharger drafted a tentative settlement agreement that enforces the 9.5 year timeline, and provides for one more 301(h)-modified permit. This 301(h)-modified permit is necessary because the timeline to achieve compliance with secondary treatment standards exceeds the five-year life of an NPDES permit. The next NPDES permit (September 2013, if the Water Board adopts a permit at this hearing) will contain secondary treatment requirements, and will be accompanied by a time schedule or other order to shield the Discharger from mandatory minimum penalties until the upgrade is completed. If State and federal law (see 40 CFR 122.47) allow a compliance schedule in the NPDES permit, the permit will include the compliance schedule and no time schedule or other order will be necessary. The tentative settlement agreement contains additional provisions regarding new evidence and Central Coast Water Board discretion.

Water Board staff presented the revised modified 301(h) Waiver NPDES Permit to the Central Coast Water Board on May 11, 2006. Prior to the May 11, 2006 meeting, Water Board staff and the Discharger entered into a revised settlement agreement that expedited the conversion schedule to 8.5 years. The Central Coast Water Board had questions regarding the potential affects of continued discharges from the Facility; more specifically, whether continued facility discharges would effect the southern sea otter and brown pelican. As a result, the Central Coast Water Board continued the hearing to allow USEPA to develop an Endangered Species Act Biological Evaluation (BE) on the potential effects. Furthermore, the BE would be required to receive concurrence of "no likely adverse effects" pursuant to Section 7 of the Federal Endangered Species Act from the USFWS.

The USEPA drafted the BE on September 6, 2007, and requested concurrence of "no likely adverse effects" on the brown pelican and southern sea otter from the USFWS.

The BE recognizes no likely adverse effects on the southern sea otter and brown pelican provided that the Discharger implement conservation measures, which include:

- *Public outreach program to minimize the input of cat litter-box wastes into the municipal sewer systems;*
- *Regular monitoring of nutrient loading from the facility's ocean outfall; and*
- *Facility upgrade to at least full secondary or tertiary treatment by 2014.*

The USFWS formally responded to the USEPA's request for concurrence in a letter dated December 21, 2007. The USFWS letter concurred with the USEPA's findings indicating that continued discharges from the Facility would not likely have adverse effects to endangered species in the area. The USFWS letter states, "[w]e concur with your determination that the proposed project is not likely to adversely affect the brown pelican or southern sea otter." However, the USFWS letter recognized that there are material gaps in current data and that additional data gathering would optimize the understanding of potential effects from the continued discharge. The USFWS letter states, "[w]e recognize that the conservation measures proposed in the Biological Evaluation for this action will assist in gathering information useful in evaluating this issue, as will independent research being conducted by a number of interested parties."

As noted in Finding AA of this Order, the Discharger plans on converting the existing facility to tertiary treatment as part of the upgrades. Furthermore, the Discharger submitted to Water Board staff drafts for the development and implementation of a nutrient monitoring program and a Cat Litter Public Outreach program consistent with the conservation measures as proposed by USEPA. These conservation measures are incorporated into the revised Order. The May 11, 2006 settlement agreement has been updated to revise the conversion schedule and make other revisions to reflect new factual information available since the May 11, 2006 hearing. …

IV. <u>Settlement Agreement</u>. Under the revised, now-signed, Settlement Agreement, compared to an earlier-proposed settlement agreement the time period for full compliance was reduced by a year, penalties for non-compliance were increased from $100 to $1000/day, a "force majeure" clause[1] was added, and the agreed-upon conversion schedule and milestones are as follows:

[1] For events beyond Morro Bay's control.

CONVERSION SCHEDULE

Task	Date of Completion
Preliminary Activities:	
1. Issuance of Request for Consulting Engineering Proposals for Facilities Master Plan	November 11, 2005
2. Award of Consulting Engineering Contracts	April 26, 2007
Facilities Planning:	
1. Submit Final Draft Facilities Plan	November 30, 2007
2. Submit Final Facilities Plan	September 30, 2009
Environmental Review and Permitting:	
1. Complete and Circulate Draft CEQA Document	February 27, 2009
2. Obtain Coastal Development permit	May 31, 2011
Financing:	
1. Complete Draft Plan for Project Design and Construction Financing	December 31, 2007
2. Complete Final Plan for Project Financing	June 30, 2008
3. Submit proof that all necessary financing has been secured, including compliance with Proposition 218	October 30, 2009
Design and Construction:	
1. Initiate Design	September 30, 2010
2. Issue Notice to Proceed with Construction	March 29, 2012
3. Construction Progress Reports	Quarterly (w/ SMRS)
4. Complete Construction and Commence Debugging and Startup	January 31, 2014
5. Achieve Full Compliance with Secondary Treatment	March 31, 2014

V. <u>Previous Commission Reviews of Waivers Statewide</u>. In 1979, and 1983-1985, the Commission reviewed a number of proposed secondary treatment waivers under the federal consistency provisions of the Coastal Zone Management Act, and EPA ultimately granted many of these waivers. During these reviews the Commission expressed concern over the need for treatment meeting the *equivalent* of secondary treatment with respect to removal of toxics. Nevertheless, at that time, the Commission consciously adopted a neutral position on the waivers. Since a position of "neutrality" is not an action that is recognized under CZMA regulations, the Commission's concurrence in the waivers was presumed pursuant to section 307(c)(3)(A) of the CZMA. 16 USC § 1456(c)(3)(A).

Section 301(h) waivers are only valid for 5 years, although administrative extensions commonly occur during processing of renewal applications. Four of the waiver applicants continued to pursue waivers, which subsequently came up for renewal: Goleta, Morro Bay, Orange County (CSDOC), and the City of San Diego. On January 12, 2005 and January 8,

1997, the Commission concurred with Goleta's renewals (CC-13-02 and CC-126-96). On January 13, 1999, and January 12, 1993, the Commission concurred with Morro Bay's previous renewals (CC-123-98 and CC-88-92). On March 10, 1998, the Commission concurred with Orange County's renewal (CC-3-98). Morro Bay, Goleta, and Orange County have now all agreed to upgrade to secondary treatment, by 2012 (Orange Co.), 2014 (Goleta), and 2015 (Morro Bay).

The City of San Diego had allowed its initial waiver to lapse; however special legislation (the Ocean Pollution Reduction Act of 1994 (OPRA)) enabled the City to reapply. Due to this unique circumstance, on September 27, 1995, after a Commission public hearing, the Commission staff concurred with a "No effects" letter (rather than the normal consistency certification) for the City of San Diego's initial waiver (NE-94-95). On April 8, 2002, the Commission initially objected to the City of San Diego's waiver renewal (CC-10-02), and the San Diego RWQCB echoed several of the Commission's concerns, which involved mass emissions levels, water reclamation, and monitoring provisions. The RWQCB modified its staff-recommended permit conditions and addressed these three areas of Commission concern with additional conditions reducing permitted mass emission loadings by 6.7%, requesting annual reports showing progress towards implementing water reclamation, and further review of the monitoring program. On May 8, 2002, the City of San Diego appealed the Coastal Commission's consistency certification objection (CC-10-02) to the Secretary of Commerce. On May 9, 2002, the City appealed the RWQCB's NPDES permit action modifying the mass emission limits to the State Water Resources Control Board (SWRCB). The City and the Commission staff agreed to "stay" any further deliberations in the Commission/Secretary of Commerce appeal, pending Commission reconsideration of the matter once the SWRCB acted. On August 15, 2002, the SWRCB ordered the mass emission limits to be returned to the originally-drafted 15,000 metric tons (MT)/yr. (for the first four years) (i.e., the level recommended prior to RWQCB modification). On September 9, 2002, the Commission concurred with the City's consistency certification for the permit as modified and ordered by the SWRCB (and resubmitted to the Commission as CC-28-02).

VI. Applicant's Consistency Certification. The City of Morro Bay and Cayucos Sanitary District has certified that the proposed activity complies with California's approved coastal management program and will be conducted in a manner consistent with such program.

VII. Staff Recommendation. The staff recommends that the Commission adopt the following motion:

MOTION: I move that the Commission **concur** with consistency certification CC-007-06 that the project described therein is consistent with the enforceable policies of the California Coastal Management Program (CCMP).

STAFF RECOMMENDATION:

The staff recommends a **YES** vote on the motion. Passage of this motion will result in a concurrence in the certification and adoption of the following resolution and findings. An affirmative vote of a majority of the Commissioners present is required to pass the motion.

RESOLUTION TO CONCUR WITH CONSISTENCY CERTIFICATION:

The Commission hereby **concurs** with the consistency certification made by the Morro Bay and Cayucos Sanitary District for the proposed project, finding that the project is consistent with the enforceable policies of the California Coastal Management Program [just making this match the motion].

VIII. Findings and Declarations:

The Commission finds and declares as follows:

A. Water Quality/Marine Resources.

1. Regulatory Framework. The Environmental Protection agency (EPA) and the applicable RWQCBs (Regional Water Quality Control Boards) regulate municipal wastewater outfalls discharging into the Pacific Ocean under NPDES permits issued pursuant to the federal Clean Water Act. As enacted in 1972, the Clean Water Act required secondary treatment for all wastewater treatment nationwide. Amendments to the Clean Water Act in 1977 provided for Section 301(h) (33 USC Section 1311(h)) waivers of the otherwise applicable requirements for secondary treatment for discharges from publicly owned treatment works into marine waters. Section 301(h) is implemented by EPA regulations set forth in 40 CFR Part 125, Subpart G.

Section 301(h) of the Clean Water Act provides that an NPDES permit which modifies the secondary treatment requirements may be issued if the applicant: (1) discharges into oceanic or saline, well-mixed estuarine waters; and (2) demonstrates to EPA's satisfaction that the modifications will meet those requirements specified in Section 301(h) below, including: (a) that the waiver will not result in any increase in the discharge of toxic pollutants or otherwise impair the integrity of receiving waters; and (b) that the discharger must implement a monitoring program for effluent quality, must assure compliance with pre-treatment requirements for toxic control, must assure compliance with water quality standards, and must measure impacts to indigenous marine biota. In California, the applicable water quality standards are embodied in the California Ocean Plan (summarized below).

While the State of California (through the SWRCB and RWQCBs) administers the NPDES permit program and issues permits for most discharges to waters within State waters, authority to grant a waiver and issue a modified NPDES permit under Section 301(h) of the Act is

reserved to the Regional Administrator of EPA. Prior state (i.e. SWRCB or RWQCB) concurrence with the waiver is also required.

Section 307(f) of the federal CZMA (16 USC § 1456(f))specifically incorporates all Clean Water Act-based requirements into the California Coastal Management Program (CCMP). Commission consistency certification review is required for 301(h) applicants, because EPA NPDES permits are listed in California's program as federal licenses or permits for activities affecting land or water uses in the coastal zone. In reviewing the discharges, the Commission relies on the Clean Water Act and its implementing regulations, the California Ocean Plan, the Coastal Act (Chapter 3 policies), and Water Code Section 13142.5 (incorporated into the Coastal Act by Section 30412(a)). These requirements, which are further described and summarized below, provide both specific numerical standards for pollutants, as well as general standards for protection of marine biological productivity.

a. <u>Clean Water Act/Section 301(h)</u>. Implementation of the Clean Water Act in California, for the most part, has been delegated to the applicable RWQCB for issuance of NPDES permits. Under an MOA between EPA and the State of California, NPDES permits for outfalls beyond 3 miles *and* for secondary treatment waivers (regardless of location) are issued jointly by EPA and the applicable RWQCB. The Clean Water Act divides pollutants into three categories for purposes of regulation, as follows: (1) conventional pollutants, consisting of total suspended solids (TSS or SS); biochemical oxygen demand (BOD, a measure of the amount of oxygen consumed during degradation of waste); pH; fecal coliform bacteria; and oil and grease; (2) toxic pollutants, including heavy metals and organic chemicals; and (3) non-conventional pollutants (a "catch-all" category for other substances needing regulation (e.g., nitrogen and phosphorus, chlorine, fluoride)).

Guidelines adopted under Section 403 of the Clean Water Act (40 CFR Part 125.120-124, Subpart M, “Ocean Discharge Criteria”) specify that beyond an initial mixing zone, commonly referred to as the zone of initial dilution (ZID), the applicable water quality standards must be met. The zone of initial dilution is the boundary of the area where the discharge plume achieves natural buoyancy and first begins to spread horizontally. Discharged sewage is mostly freshwater, so it creates a buoyant plume that moves upward toward the sea surface, entraining ambient seawater in the process. The wastewater/seawater plume rises through the water column until its density is equivalent to that of the surrounding water, at which point it spreads out horizontally.

Section 301(h) of the Clean Water provides for secondary treatment waivers under certain circumstances. The following requirements must be met for EPA to grant a secondary treatment waiver:

> *(1) there is an applicable water quality standard specific to the pollutant for which the modification is requested, which has been identified under section 304(a)(6) of this Act;*

(2) such modified requirements will not interfere, alone or in combination with pollutants from other sources, with the attainment or maintenance of that water quality which assures protection of public water supplies and the protection and propagation of a balanced, indigenous population (BIP) of shellfish, fish and wildlife, and allows recreational activities, in and on the water;

(3) the applicant has established a system for monitoring the impact of such discharge on a representative sample of aquatic biota, to the extent practicable, and the scope of the monitoring is limited to include only those scientific investigations which are necessary to study the effects of the proposed discharge;

(4) such modified requirements will not result in any additional requirements on any other point or nonpoint source;

(5) all applicable pretreatment requirements for sources introducing waste into such treatment works will be enforced;

(6) in the case of any treatment works serving a population of 50,000 or more, with respect to any toxic pollutant introduced into such works by an industrial discharger for which pollutant there is no applicable pretreatment requirement in effect, sources introducing waste into such works are in compliance with all applicable pretreatment requirements, the applicant will enforce such requirements, and the applicant has in effect a pretreatment program which, in combination with the treatment of discharges from such works, removes the same amount of such pollutant as would be removed if such works were to apply secondary treatment to discharges and if such works had no pretreatment program with respect to such pollutant;

(7) to the extent practicable, the applicant has established a schedule of activities designed to eliminate the entrance of toxic pollutants from nonindustrial sources into such treatment works;

(8) there will be no new or substantially increased discharges from the point source of the pollutant to which the modification applies above that volume of discharge specified in the permit;

(9) the applicant at the time such modification becomes effective will be discharging effluent which has received at least primary or equivalent treatment and which meets the criteria established under section 304(a)(1) of the Clean Water Act after initial mixing in the waters surrounding or adjacent to the point at which such effluent is discharged.

EPA's Tentative Decision Document dated November 10, 2005, evaluates Morro Bay's compliance with each of these nine criteria (see EPA conclusions below). EPA's tentative decision is that the discharges meet each of the above criteria and the NPDES permit is eligible

for reissuance. In addition, the RWQCB has evaluated Morro Bay's discharges and determined that they would comply with the applicable California Ocean Plan, other California requirements, and NPDES permit limitations.

b. <u>California Ocean Plan</u>. The California Ocean Plan was originally adopted by the SWRCB and approved by the EPA in June 1972, and is revised every three years. Among the California Ocean Plan requirements are the following water quality objectives (Chapter II) [note: the asterisks (*) below refer the reader to Ocean Plan definitions in its Appendices]:

A. General Provisions

1. This chapter sets forth limits or levels of water quality characteristics for ocean waters to ensure the reasonable protection of beneficial uses and the prevention of nuisance. The discharge of waste* shall not cause violation of these objectives.*

2. The Water Quality Objectives and Effluent Limitations are defined by a statistical distribution when appropriate. This method recognizes the normally occurring variations in treatment efficiency and sampling and analytical techniques and does not condone poor operating practices.

3. Compliance with the water quality objectives of this chapter shall be determined from samples collected at stations representative of the area within the waste field where initial dilution is completed.*

B. Bacterial Characteristics

1. Water-Contact Standards

Both the SWRCB and the California Department of Health Services (DHS) have established standards to protect water contact recreation in coastal waters from bacterial contamination. Subsection a of this section contains bacterial objectives adopted by the SWRCB for ocean waters used for water contact recreation. Subsection b describes the bacteriological standards adopted by DHS for coastal waters adjacent to public beaches and public water contact sports areas in ocean waters.

…

2. Shellfish Harvesting Standards*

a. At all areas where shellfish may be harvested for human consumption, as determined by the Regional Board, the following bacterial objectives shall be maintained throughout the water column:*

(1) The median total coliform density shall not exceed 70 per 100 ml, and not more than 10 percent of the samples shall exceed 230 per 100 ml.

C. Physical Characteristics

1. Floating particulates and grease and oil shall not be visible.

2. The discharge of waste shall not cause aesthetically undesirable discoloration of the ocean* surface.*

3. Natural light shall not be significantly* reduced at any point outside the initial* dilution zone as the result of the discharge of waste*.*

4. The rate of deposition of inert solids and the characteristics of inert solids in ocean sediments shall not be changed such that benthic communities are degraded*.*

D. Chemical Characteristics

1. The dissolved oxygen concentration shall not at any time be depressed more than 10 percent from that which occurs naturally, as the result of the discharge of oxygen demanding waste materials.*

2. The pH shall not be changed at any time more than 0.2 units from that which occurs naturally.

3. The dissolved sulfide concentration of waters in and near sediments shall not be significantly increased above that present under natural conditions.*

4. The concentration of substances set forth in Chapter II, Table B, in marine sediments shall not be increased to levels which would degrade indigenous biota.*

5. The concentration of organic materials in marine sediments shall not be increased to levels that would degrade marine life.*

6. Nutrient materials shall not cause objectionable aquatic growths or degrade indigenous biota.*

…

E. Biological Characteristics

1. Marine communities, including vertebrate, invertebrate, and plant species, shall not be degraded.*

2. The natural taste, odor, and color of fish, shellfish, or other marine resources used for human consumption shall not be altered.*

3. The concentration of organic materials in fish, shellfish or other marine resources*
used for human consumption shall not bioaccumulate to levels that are harmful to human health.

F. Radioactivity

1. Discharge of radioactive waste shall not degrade* marine life.*

General requirements in the Ocean Plan include:

A. Waste management systems that discharge to the ocean must be designed and operated in a manner that will maintain the indigenous marine life and a healthy and diverse marine community.

B. Waste discharged to the ocean must be essentially free of:

1. Material that is floatable or will become floatable upon discharge.

2. Settleable material or substances that may form sediments which will degrade benthic communities or other aquatic life.

3. Substances which will accumulate to toxic levels in marine waters, sediments or biota.

4. Substances that significantly decrease the natural light to benthic communities and other marine life.

5. Materials that result in aesthetically undesirable discoloration of the ocean surface.

C. Waste effluents shall be discharged in a manner which provides sufficient initial dilution to minimize the concentrations of substances not removed in the treatment.

D. Location of waste discharges must be determined after a detailed assessment of the oceanographic characteristics and current patterns to assure that:.

1. Pathogenic organisms and viruses are not present in areas where shellfish are harvested for human consumption or in areas used for swimming or other body-contact sports.

2. Natural water quality conditions are not altered in areas designated as being of special biological significance or areas that existing marine laboratories use as a source of seawater.

3. Maximum protection is provided to the marine environment.

E. Waste that contains pathogenic organisms or viruses should be discharged a sufficient distance from shellfishing and water-contact sports areas to maintain applicable bacterial standards without disinfection. Where conditions are such that an adequate distance cannot be attained, reliable disinfection in conjunction with a reasonable separation of the discharge point from the area of use must be provided. Disinfection procedures that do not increase effluent toxicity and that constitute the least environmental and human hazard should be used.*

In addition, the Ocean Plan contains "Table A" effluent limitations for major wastewater constituents and properties, "Table B" limitations that provide maximum concentrations for toxic materials that may not be exceeded upon completion of initial dilution, and other standards. Table A and B limitations are contained in Exhibit 7.

c. <u>Coastal Act Policies</u>. The Coastal Act contains policies protecting water quality and marine resources. Section 30230 of the Coastal Act provides:

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 provides:

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.

In addition to these resource protection policies, Section 30412 addresses the Commission's relationship with the SWRCB and RWQCBs; Section 30412 provides (in relevant part):

(a) In addition to the provisions set forth in Section l3l42.5 of the Water Code, the provisions of this section shall apply to the commission and the State Water Resources Control Board and the California regional water quality control boards.

(b) The State Water Resources Control Board and the California regional water quality control boards are the state agencies with primary responsibility for the coordination and control of water quality. The State Water Resources Control Board has primary responsibility for the administration of water rights pursuant to applicable law. The commission shall assure that proposed development and local coastal programs shall not frustrate the provisions of this section. Neither the commission nor any regional commission shall, except as provided in subdivision (c), modify, adopt conditions, or take any action in conflict with any determination by the State Water Resources Control Board or any California regional water quality control board in matters relating to water quality or the administration of water rights.

Except as provided in this section, nothing herein shall be interpreted in any way either as prohibiting or limiting the commission, regional commission, local government, or port governing body from exercising the regulatory controls over development pursuant to this division in a manner necessary to carry out the provisions of this division.

Finally, Section l3l42.5 of the Water Code, which is referenced in Section 30412 above, provides:

In addition to any other policies established pursuant to this division, the policies of the state with respect to water quality as it relates to the coastal marine environment are that:

(a) Waste water discharges shall be treated to protect present and future beneficial uses, and, where feasible, to restore past beneficial uses of the receiving waters. Highest priority shall be given to improving or eliminating discharges that adversely affect any of the following:

(1) Wetlands, estuaries, and other biologically sensitive sites.
(2) Areas important for water contact sports.
(3) Areas that produce shellfish for human consumption.
(4) Ocean areas subject to massive waste discharge.

> *Ocean chemistry and mixing processes, marine life conditions, other present or proposed outfalls in the vicinity, and relevant aspects of areawide waste treatment management plans and programs, but not of convenience to the discharger, shall for the purposes of this section, be considered in determining the effects of such discharges...*

2. <u>EPA's Technical Evaluation of Morro Bay's Discharges</u>. EPA's Tentative Decision includes an independent technical evaluation (Exhibit 8) analyzing Morro Bay's compliance with the 301(h) criteria discussed above. In this evaluation, EPA summarizes Morro Bay's performance as follows:

> *Performance: The average annual effluent concentration for SS between 1998-2003 was 41.4 mg/L (ranged from 37.4 to 49.2 mg/L). Annual removal efficiency for SS over the same time period averaged 87% (ranged from 84 to 89%). The COP requires at least 75% removal of SS. [Note: the concentrations for suspended solids being discharged by the applicant have consistently been below the permit limits].*
>
> *The annual average BOD concentration in the effluent between 1998- 2003 was 53.8 mg/L (ranged 39.1 to 67.5 mg/L). The removal efficiencies during this time period ranged from 81% to 83% with an average of 82% removal. The plant has been achieving removal rates greater than 80% since 1992. [Note: the concentrations for BOD being discharged by the applicant are well below the permit limits].*
>
> *Mass emissions: In terms of mass (measured in weight), suspended solids loadings have ranged from 56 to 102 million tons per year (MT/yr) between 1998-2003. Given the small projected increases in population, loadings are not likely to increase substantially. The annual mass emissions limit in the existing permit is for 199 MT/yr and, as reported, the applicant's loadings to the receiving waters have consistently been well below this limit.*

Analyzing the effects of Morro Bay's discharges, EPA states:

> ***SUMMARY OF FINDINGS***
>
> *Based upon review of the data, references, and empirical evidence furnished in the 2003 re-application, and associated monitoring reports, EPA Region 9 makes the following findings with regard to compliance with the statutory and regulatory criteria:*
>
> *1. The applicant's proposed discharge will comply with the California Ocean Plan water quality standards for suspended solids, dissolved oxygen, and pH. [Section 301(h) (1), 40 CFR 125.61].*
>
> *2. The applicant's proposed discharge will not adversely impact public water supplies or interfere with the protection and propagation of a balanced, indigenous*

population of fish, shellfish, and wildlife, and will allow recreational activities in and on the water. [Section 30l (h) (2), 40 CFR 125.62].

3. The existing monitoring program was last revised in 1998 and may be modified by EPA and the Central Coast Regional Water Quality Control Board during permit reissuance to better evaluate the effects of the discharge. [Section 301(h) (3), 40 CFR l25.63].

4. The applicant's proposed discharge will not result in any additional treatment requirements on any other point or nonpoint source. [Section 30l (h) (4), 40 CFR 125.64].

5. The applicant is exempt from the pretreatment requirements specified under 40 CFR l25.66(c). The draft NPDES permit implements pollution prevention requirements specified in 40 CFR l25.66(d) in lieu of the General Pretreatment Regulations specified in 40 CFR 403. This finding is conditional upon receipt of documented certification from the applicant that there are no known sources of toxic pollutants or pesticides. [Section 301(h) (5), 40 CFR 125.66 and 125.68].

6. The applicant is a small discharger and exempt from the urban area pretreatment requirement. [Section 301(h) (6), 40 CFR 125.65].

7. The requirement for a nonindustrial source control program is being met through a Pollution Prevention Program (as specified in the draft NPDES permit) which implements public education and waste minimization/source reduction programs to limit entrance of toxic pollutants and pesticides into the treatment plant. [Section 301 (h) (7), 40 CFR 125.66].

8. There will be no substantially increased discharge from the point source of the pollutants to which the variance would apply (BOD and SS), above those which would be specified in the section 301(h) permit. [Section 301(h) (8), 40 CFR 125.67].

9. The applicant has demonstrated through past performance that its treatment facilities will be removing greater than 30% of the influent five-day biochemical oxygen demand (BOD) and suspended solids. The applicant will be in compliance with all applicable Federal water quality criteria, as established under Section 304(a) of the Clean Water Act. [Section 301(h) (9), 40 CFR 125.60]

10. The Central Coast Regional Water Quality Control Board will make a determination that the prospective NPDES permit contains provisions to ensure that the applicant's discharge will meet water quality standards for the Pacific Ocean and not require imposition of additional treatment or control requirements to be applied to other dischargers. Issuance of final waste discharge requirements will constitute the State's certification and concurrence under 40 CFR 124.54.

CONCLUSION

It is concluded that the applicant's proposed discharge will comply with the requirements of section 301(h) and 40 CFR Part 125, subpart G, as stated above.

EPA's analysis also includes the following discussions:

Conclusions on Applicable [State] Water Quality Standards.
Based on the information provided by the applicant and a review of past performance, the discharge will be operated in a manner which ensures compliance with the State water quality standards relevant to suspended solids, BOD, and pH. This includes the effluent limits specified in the COP for suspended solids (75% removal), turbidity (75 NTU) and pH (6.0 to 9.0) and the ambient standards for dissolved oxygen and light transmittance. The reissued NPDES permit will contain effluent limitations for suspended solids, turbidity, BOD and pH to ensure continued compliance.

Zone of Initial Dilution (ZID)
The initial dilution of 133:1 was used by Region IX in the re- issuance of MBCSD's permit in 1993 and 1999 for calculations of effluent limits, and is used similarly in the current review for assessing compliance with the COP standards, Federal Marine Water Quality Criteria, and the nine 301(h) criteria. No significant increases or changes related to the applicant's discharge (i.e., flow, capacity, treatment capabilities, etc.) have come to light, or have been proposed, during this review. Therefore, the application of the initial dilution of 133:1 in this case is both consistent and appropriate.

Monitoring
EPA reviewed the results of effluent monitoring which occurred over the last two permit periods (1993-1998 and 1998-2003) or decade. The data reviewed, which was provided by the applicant, was collected as part of the NPDES monitoring requirements. Of the approximate 780 effluent samples collected and analyzed for Table B constituents over the last decade, results show that all but three samples complied with receiving-water standards. … Given the over-riding trend of compliance for Table B constituents over the last decade, EPA expects that the subject discharge will likely continue to comply with Table B standards during the up-coming permit period.

Transport and Dispersion of Wastewater and Particulates.
Accumulation of suspended (settleable) solids in and beyond the vicinity of the discharge can have adverse effects on biological communities. Following initial dilution, the diluted wastewater and particulate must be transported and dispersed so that water use areas and areas of biological sensitivity are not adversely affected [40 CFR 125.62(a) (2)].

Solids Deposition. … Sediment, biological data (see Section 2C), and annual outfall inspections (diver surveys) conducted by the discharger indicate that, over the last decade, there is no evidence of significant accumulation of effluent-related solids on the benthos in the area of the outfall. In addition, analyses of sediment samples collected from benthic monitoring stations (see Figure 3 for the location of the benthic sampling stations relative to the outfall location) over the last 15 years show that there is no evidence of buildup of fine particulate matter (silts and clay materials) in the vicinity of the outfall…. In EPA's view, the lack of effluent-related solids accumulation in the vicinity of the outfall is primarily related to two factors: 1) the applicant's SS removal rate is consistently above the 75% removal requirement, and 2) the discharge environment itself is an extremely well-flushed and dynamic open-ocean setting. Because the applicant is not projecting any changes to their discharge, relative to previous permit periods, EPA believes that the re- issuance of the applicant's permit will not lead to benthic impacts from solids build-up during the next permit cycle.

Deposition and Accumulation of Organic Matter. Results from the applicant's benthic monitoring efforts, over the last 15 years, suggest that the Morro Bay discharge does not cause significant organic deposition and accumulation in the vicinity of the outfall, which would negatively impact the occurrence and health of nearby benthic communities. …For this review, EPA evaluated the last l0 years worth of sediment data … Based on these results, EPA concludes that organic material is not accumulating around the outfall and that organic concentrations in sediments around the MBCSD outfall are not degrading marine life.

Contaminant Concentrations in Sediments. EPA finds no evidence of any outfall-related patterns with regard to the occurrence of contaminants in benthic sediments in the vicinity of the outfall, and that contaminant concentrations in the vicinity of the outfall are causing adverse degradation to local marine life. This is based on the applicant's marine monitoring data collected over the last two permit cycles (i.e., decade).

Impact of Discharge on Public Water Supplies.
The City of Morro Bay has a desalinization plant located near the MBCSD wastewater treatment plant. The intake structure for this facility draws brackish water from saltwater wells located onshore and 16 km from the MBCSD outfall. Given the distance between the wells and the diffuser ports, and the physical (land) and oceanographic barriers between the two, it is unlikely that the outfall would have any adverse affect on the quality of water at the desalinization intake wells should the facility go into operation.

Biological Impact of the Discharge.
The applicant has provided a substantial and in depth analysis of the infaunal community data collected from the benthic environment in association with applicant's discharge monitoring program over the last three permit cycles. This analysis is presented in Section III.D of the applicant's Supplemental Report, pages III-50 through

III-63. EPA has reviewed this analysis and finds it to be scientifically sound. A variety of statistical methodologies were applied to the infaunal data by the applicant which, ultimately, resulted in the same conclusion: infaunal communities in the vicinity of the discharge are not being degraded.

Species Richness. …All stations tend to track this temporal variability as a group, indicating that such patterns are in response to natural variability in environmental conditions (such as periods of up-welling, El Nino, etc.). Moreover, there are no temporal trends in the data that indicate an increasingly degraded benthic environment in the entire sampling area, whether it be at, near or away from the outfall location.

Abundance. … While total species abundance has proved variable over time, the differences between stations at any given time (i.e., sampling event) have generally been small. As with species richness, species abundances at each station have been generally similar between stations for each sampling event. The applicant's monitoring data does not indicate that species abundances at the ZID, nearfield, or farfield stations differ significantly. Such a pattern is indicative of a pollutant-free environment in the vicinity of the applicant's outfall.

Other Measures of Community Structure. Diversity, evenness, and dominance are three common measures used to evaluate changes in the relative abundance of species.

… Species diversity values at the ZID, nearfield, and farfield stations are similar to those found at the reference station. … [N]o pattern of species dominance showed a strong spatial association relative to the location of the outfall. … [T]he applicant's monitoring data shows that there is no significant change in the types and abundances of infauna around the outfall area over the course of the monitoring period (15 plus years).

Conclusions on Balanced Indigenous Population.
EPA concludes that a balanced indigenous population is being maintained in the vicinity of the outfall and recreational activities are protected. This conclusion is based on the following considerations:

1. The discharge meets all COP standards and EPA water quality criteria. EPA models indicate that the outfall design and location result in a high degree of initial dilution. The applicant's discharge meets effluent limitations specified in the existing permit.

2. No substantial increase in solids deposition near the outfall is evident by the monitoring data and there is no indication of organic accumulation in the vicinity of the outfall. Thus, benthic infaunal communities in the vicinity of the outfall are not degraded by the discharge. The health of the benthic community is compelling evidence that the applicant's discharge is not degrading marine life in the vicinity of the discharge.

3. Benthic infaunal communities in the vicinity of the outfall appear not be degraded by sediment contamination. Organic pollutants and metal concentrations in sediments are not present at levels that would be considered potentially toxic to marine organisms.

4. Benthic monitoring data for infaunal communities does not indicate or suggest outfall-related perturbations based on species composition, number of species, abundance, diversity, evenness, or species dominance. Although not specifically sampled, local fish populations are not likely to be impacted by the quality and quantity of effluent being discharged.

5. Effluent coliform data indicates that, in general, the treatment works is discharging effluent which is not causing unacceptable levels of total and fecal coliform bacteria either in the receiving waters and along the nearby shoreline. This is primarily due to the requirement for the treatment works to disinfect its effluent prior to discharge periodic bacterial monitoring along the adjacent beaches indicate that, overall, water quality standards are being met.

6. Effluent monitoring results, for the most part, indicate that unacceptable levels of toxic constituents (metals, pesticides, organic pollutants, etc.) are not found in the applicant's effluent prior to discharge; see Section III-H of the applicant's Supplemental Report for a complete discussion. In fact, relative to the federal and state applicable water quality standards for the subject discharge, no significant and/or consistent occurrence of toxic constituents have been measured from the applicant's effluent during the last two permit cycles (i.e., 10 years). Likewise, no significant and/or consistent occurrence of toxic constituents have been measured from the applicant's benthic sediments and biosolids monitoring efforts over the last ten years.

3. <u>RWQCB Evaluation of Morro Bay's Discharges</u>. The RWQCB staff report summarizes Morro Bay's monitoring results as follows:

***Proposed NPDES Permit**. The proposed Permit is included as Attachment 3. The Permit is formatted in the new statewide template. The Fact Sheet includes staff's detailed evaluation of compliance with permit requirements, summary and rationale for proposed changes to the Permit, and written comments and responses. For the sake of readability, these topics will only be discussed briefly in this staff report. Staff encourages the reader to review the Fact Sheet, which is Permit Attachment F, for a complete discussion of these topics.*

[Note: the RWQCB Fact Sheet referred to here can be accessed on pages 87-172 (i.e., Appendix F) of the RWQCB Order, located at the following link at the RWQCB's website: http://www.waterboards.ca.gov/centralcoast/board_decisions/tentative_orders/2008/2008_0065_proposed_order.pdf]

> ***Monitoring and Reporting Requirements***. *The Discharger's Monitoring and Reporting Program (MRP) is among the most comprehensive and intensive of all ocean discharges less than 5 MGD in California. Every important aspect of the treatment process, receiving waters, seafloor sediment, and marine life is monitored. Influent and effluent quality and quantity are routinely monitored to evaluate treatment process efficiency. Effluent is regularly monitored for conventional pollutants (e.g., TSS, pH), as well as whole effluent toxicity and priority pollutants (e.g., arsenic, benzene, trihalomethanes, etc.).*
>
> ***Evaluation of Compliance with Permit Requirements***. *Central Coast Water Board staff completed a comprehensive and detailed evaluation of the Discharger's monitoring data. This evaluation included all limitations relevant to reissuance of the proposed Permit. These include effluent limitations for TSS, BOD5, pH, and other parameters; as well as receiving water limitations for bacteria (including beach water quality), light transmittance, dissolved oxygen, pH, sulfides in sediment, organic materials in sediment, and marine life (including sea otters). Staff determined that the discharge meets all of the Permit's effluent and receiving water limitations, and that the Permit is eligible for reissuance.*

Excerpts from this RWQCB staff evaluation, which can be found in full at the above-referenced link to the RWQCB Fact Sheet, include:

> *Receiving water monitoring includes both surf zone monitoring and ocean monitoring near the discharge. The discharge is approximately 2700 feet offshore. Surf zone monitoring includes grab samples taken on a weekly basis in the summer months and at least monthly during the winter months, at eight monitoring stations, ranging from 5600 feet upcoast of the outfall diffuser, to 5000 feet downcoast of the outfall diffuser. Samples are analyzed for total and fecal coliform organisms to assess conditions for water contact recreation and shellfish harvesting.*
>
> *Ocean monitoring stations are located in a target-shaped grid around the outfall diffuser to assess the short- and long-term impacts of the discharge on the receiving water, benthic sediment, and biota in the vicinity of the discharge. Ocean monitoring data are collected quarterly by deploying electronic probes by boat at each monitoring station to measure dissolved oxygen, pH, salinity, temperature, density, and light transmittance at frequent intervals through the entire water column. The data are interpolated to create graphical cross sections of the discharge plume. The cross sections are used to approximate the geometry and behavior of the discharge plume under various oceanographic conditions.*
>
> *Sediment monitoring is conducted annually in October at nine stations surrounding the discharge, to assess the temporal (i.e. changes over time) and spatial (i.e. changes in distance from the outfall) occurrence of pollutants in sediment, and physical and*

chemical quality of the sediments. Parameters that are measured include sediment particle size, BOD5, sulfides, heavy metals, and persistent organic pollutants (e.g. DDT).

Bottom-dwelling (or "benthic") organisms are monitored annually in October at the same monitoring stations where sediment monitoring occurs. Benthic community health is represented by indices of density, diversity, trophic index, species, dominance, and richness. Statistical evaluations of these indices are used to assess any changes over time or in distance from the outfall.

Additionally, biosolids and the outfall/diffuser system are inspected annually.

The RWQCB staff's analysis of Morro Bay's consistency with NPDES permit requirements and California Ocean Plan standards includes the following statements:

Evaluation of compliance with permit requirements:

Effluent Limitations.

…

Total Suspended Solids. *The Permit requires removal of at least 75% of TSS from the influent stream. Additionally, effluent shall not exceed the following limits:*

Constituent	Unit	Monthly (30-Day) Average	Maximum At Any Time
TSS	mg/L	70	105
	lbs/day	1203	1804
	kg/day	546	819

The treatment plant was designed to comply with these limitations at an annual average flow of 2.06 MGD. Current influent flows are approximately 55% of the design capacity, thus the long-term average effluent TSS concentration is far below these limitations. However, these limitations were violated on three related occasions during a brief period in 2002. The TSS effluent maximum limit of 105 mg/L was violated on August 26, 2002 (reported value: 107 mg/L), and September 11, 2002 (147 mg/L). The TSS effluent monthly (30-day) average limit of 70 mg/L was exceeded in September 2002 (79 mg/L). The violations resulted from an upset of the biological treatment process, which was later attributed to a distinct alteration of influent characteristics by excessive loading of pH-neutralization chemicals from an industrial laundry facility. The industrial laundry facility

discontinued use of the suspect chemicals. Biological treatment performance subsequently improved and the violations ceased. There have been no other violations of effluent TSS limits since 1998.

BOD5. *The Permit requires removal of at least 30% of BOD5 from the influent stream. Additionally, effluent shall not exceed the following limits:*

Constituent	Unit	Monthly (30-Day) Average	Maximum At Any Time
BOD	mg/L	120	180
	lbs/day	2062	3092
	kg/day	936	1404

BOD5 and TSS are closely correlated. Since the facility is designed to remove 75% of TSS, the facility necessarily removes far greater than 30% of BOD5. Consequently, these limitations were never exceeded in the life of the existing Permit. The long-term average BOD5 removal efficiency since 1986 is over 70%, well above the 30% requirement. The long-term average effluent BOD5 concentration since 1986 is 52 mg/L, well below the 120 and 180 mg/L limitations.

Receiving Water Limitations

Bacteria*. The Permit specifies that the discharge shall not cause the following bacterial limits to be exceeded in the water column at all areas where shellfish may be harvested for human consumption:*

Parameter Applicable to any 30-day period	Total Coliform Organisms (MPN/100 mL)
Median	70
90% of samples	230

According to staff's analysis of all surf zone total coliform monitoring data, the Dischargers consistently comply with this requirement. …

Since water contact recreation receiving water limitations are less stringent than shellfish harvesting limitations, this beach also meets water contact receiving water limitations. Independent monitoring supports this conclusion. County of San Luis Obispo Environmental Health Services (EHS) has been monitoring this beach at stations 75 feet north of the Morro Rock parking lot (near Station F), and at the projection of Atascadero Road (near Station E) weekly during summer months since November 2001, and weekly during winter months since February 2002. Heal the Bay's Beach Report Card (see

www.healthebay.org/brc/annual/2007/counties/slo/grades.asp), which is based on EHS' monitoring results, gave both locations an A+ grade for wet weather conditions as of March 2008 and an A+ for dry weather conditions as of July 2008.

***Light Transmittance**. The Permit specifies that the discharge shall not cause significant reduction in the transmittance of natural light at any point outside the initial dilution zone. … The Discharger has monitored light transmittance at all 16 receiving water-monitoring stations on a quarterly basis since 1998. As a measure of monitoring program's resolution, the monitoring data show statistically significant decreases in light transmittance within the initial dilution zone (which is not a violation of the permit). The data also show occasional minor decreases in light transmittance outside the initial dilution zone. These minor decreases in light transmittance outside the initial dilution zone are caused by entrainment of the more turbid seafloor layer by the buoyant discharge. This phenomenon is not attributed to quality of the effluent and is not controllable, and is not considered a violation.*

***Dissolved Oxygen** [DO]. The Permit specifies that the discharge shall not cause the dissolved oxygen (DO) concentration outside the zone of initial dilution to fall below 5.0 mg/L or to be depressed more than 10 percent from that which occurs naturally.*

So far over 2,015 DO measurements were collected at the sixteen regularly sampled receiving water stations during 2007. None were below 5.0 mg/L. The annual average DO concentration was 7.05 mg/L during 2007. The discharge has not caused the DO concentration outside the zone of initial dilution to fall below 5.0 mg/L or be depressed more than 10 percent from that which occurs naturally.

Questions were raised during EPA's and the RWQCB's reviews over possible links between Morro Bay's discharges and declines in sea otter populations, which are susceptible to domoic acid poisoning caused by toxic algal blooms, and *Toxoplasma gondii*, a parasite transferred to the marine ecosystem through both point- and non-point sources through (primarily) cat feces. The latter condition is a major cause of mortality in sea otters and is found in otters in the Morro Bay offshore area.

After additional comments during the RWQCB's public hearings concerning possible effects of Morro Bay's discharges on sea otters, EPA prepared an Endangered Species Act Biological Evaluation, dated September 2007, which included studies to compare Morro Bay's discharges with non-point source runoff. EPA concluded that Morro Bay's discharges are not a significant transport mechanism, and that "there is no evidence to support a finding that the subject discharge releases any measurable quantity of oocysts into the marine environment."

On December 21, 2007, the U.S. Fish and Wildlife Service concurred with EPA's conclusion of no jeopardy to the species, although it cautioned that data gaps exist, and that "there are currently no analytical methods to detect the presence of oocysts in wastewater." The RWQCB summarizes these EPA and USFWS reviews as follows:

Toxoplasma and Sea Otters. *In April 2002, an association of scientists, including those from University of California (UC) Davis School of Veterinary Medicine, California Department of Fish and Game, and Central Coast Water Board staff Karen Worcester, published Coastal freshwater runoff is a risk factor for Toxoplasma gondii infection of southern sea otters in the International Journal for Parasitology. The study documented extensive infection of southern sea otters along the Central Coast by Toxoplasma gondii, a protozoan parasite known to originate in land-based mammals, primarily felines. The scientists theorize that sea otters become infected by T. gondii by consuming shellfish, which are filter feeders and accumulate microorganisms such as T. gondii in their tissue. More than 220 live and dead sea otters were examined between 1997 and 2001, with the goal of identifying spatial clusters and risk factors for T. gondii infection. The study found:*

> *"Spatial analysis of pooled live and dead otter serological data revealed a large cluster of T. gondii-seropositive [i.e., infected] otters (20/23, or 87% seropositive) within a 20 km coastal region centered on the towns of Morro Bay and Cayucos, California. Otters sampled from the area were nearly twice as likely to be seropositive to T. gondii as expected, and this difference was statistically significant (P = 0.082)."*

The study evaluated the cluster of high infection rates around Morro Bay and Cayucos to determine whether other risk factors could explain the cluster. The study found:

> *"…significantly increased odds of T. gondii seropositivity were detected for otters sampled near maximal (heavy) freshwater outfalls. Based on our analysis, the odds of T. gondii seropositivity were highest for adult male sea otters samples from areas of central California with maximal freshwater outflow, especially those sampled near Morro Bay/Cayucos. No significant associations with T. gondii seropositivity were found in relation to sewage flow, either by univariate analysis or by logistic regression analysis. However, 96% of our otter samples (214/223) were obtained from coastal areas with minimal values for municipal sewage exposure."*

Although the study suggests the high rate of infections is most closely associated with heavy freshwater outflow (the second highest rate of infection was centered around Elkhorn Slough, a freshwater outflow similar in magnitude to Morro Bay), the data also indicate that the highest infection rates are centered around the only discharge with a 301(h)-modified permit in the studied area. Scientists have speculated that flushable cat litter may be source of T. gondii in domestic wastewater. In March 2003, staff requested the Discharger evaluate its discharge as a potential source of T. gondii. The Discharger collaborated with the UC Davis School of Veterinary Medicine to monitor the discharge by hanging clusters of mussels from buoys at each end of the

outfall diffuser hypothesizing that any T. gondii present in the discharge would accumulate in the mussels over time. According to a December 13, 2004, letter from Dr. Patricia Conrad of the UC Davis School of Veterinary Medicine:

> *"We were able to complete testing of 120 mussels that had been outplanted at the Morro Bay outfall buoy (30 mussels each in the early dry season, late dry season, early wet season, and late wet season). Toxoplasma RNA was not detected in any of the 120 mussels from the outfall buoy that have been tested thus far."*

Although this monitoring methodology has limitations, it is the only and best method known to monitor a discharge for the presence of T. gondii. These monitoring results strongly suggest that the subject discharge is not a source of T. gondii loading to Estero Bay and is not contributing to sea otter mortality. Water Board staff's opinion is that these pathogens originate from non-point sources.

The USEPA drafted the BE on September 6, 2007, and requested concurrence of "no likely adverse effects" on the brown pelican and southern sea otter from the USFWS. The BE recognizes no likely adverse effects on the southern sea otter and brown pelican provided that the Discharger implement conservation measures. The USFWS responded to the USEPA's request for concurrence in a letter dated December 21, 2007. The USFWS letter concurred with the USEPA's findings indicating that continued discharges from the Facility would not likely have adverse effects to endangered species in the area.

The December 21, 2007 USFWS letter offers some concern for the southern sea otters located within the vicinity of the subject wastewater discharge and points out that some scientific literature discusses the possibility that pollutant loading from the sewage treatment plant discharges could have an effect on the otter. However, the USFWS acknowledges that fact that a significant degree of scientific uncertainty exists as to the mechanisms for potential impacts to the otter. The USFWS letter also states that "this decision [to upgrade the facility to provide tertiary treated wastewater] has significant potential to minimize the concerns regarding possible effects on the otter." Staff believes that the USFWS concerns will be addressed when the Discharger upgrades the facility to provide tertiary treatment.

While the Fish and Wildlife Service has concurred with EPA's conclusion of "no likely adverse effects" on the brown pelican and southern sea otter (and brown pelican), it has expressed concerns over the difficulty in establishing certainty that the discharges do not affect sea otters, and it notes that "there are currently no analytical methods to detect the presence of oocysts in wastewater (Exhibit 10). The Fish and Wildlife Service commends Morro Bay for agreeing to upgrade to secondary, stating that "this decision has significant potential to minimize the concerns regarding possible effects on the otter." At the same time the Fish and Wildlife Service states:

> *Proceeding to tertiary treatment would result in reduced loadings of a wide range of pollutants to the environment. Moreover, this level of treatment would create the opportunity for greatly reducing the quantity of wastewater discharged as the applicants develop reclaimed water reuse opportunities. The applicants' progress towards implementing their present commitment to tertiary treatment will also be a significant factor in any future Endangered Species Act analyses conducted by our office pertaining to this discharge.*
>
> *We concur with your determination that the proposed project is not likely to adversely affect the brown pelican or southern sea otter. However, as we have noted in discussions with your office, we do have some concern that the Southern sea otter is located in areas in the vicinity of the subject wastewater discharge, in light of the fact that some scientific literature discusses the possibility that pollutant loading from sewage treatment plant discharges could have an effect on the otter. We acknowledge that a significant degree of scientific uncertainty exists as to the mechanisms for potential impacts to the otter. Further, there are material gaps in available data, and in the scientific methodology for gathering such data, which, if developed, would assist in the assessment of whether and to what extent the applicant's discharge could have an effect on the otter. We recognize that the conservation measures proposed in the Biological Evaluation for this action will assist in gathering information useful in evaluating this issue, as will independent research being conducted by a number of interested parties. We intend to closely review any relevant new information in future Endangered Species Act analyses pertaining to this discharge. Consequently, further consultation, pursuant to section 7(a)(2) of the Endangered Species Act of 1973, as amended, is not required at this time. If new information is developed or the proposed action changes in any manner that may affect a listed species (or critical habitat), you must contact us immediately to determine whether additional consultation is required.*

The Settlement Agreement memorializes Morro Bay's commitment to tertiary treatment, noting the unanimous votes by the Cayucos Sanitary District and the Morro Bay City Council to upgrade to tertiary within the same time frame as the upgrade to secondary. The RWQCB explains in the following paragraph why it is discussed in the Settlement Agreement but is not an enforceable part of the RWQCB Order:

> *It is important to note that the Clean Water Act requires publicly owned treatment works to achieve at secondary treatment prior to discharge to ocean waters of the United States, unless the facility obtains a variance from USEPA pursuant to Clean Water Act section 301(h) to implement modified secondary treatment (301(h) waiver). The facility will not complete the upgrade to at least secondary treatment until after the five-year term of this permit, and, therefore a 301(h) waiver continues to be necessary for the discharge subject to this permit. The next*

> *permit will contain the final enforceable compliance dates to achieve at least secondary treatment. The Clean Water Act establishes secondary treatment as the technology based standard for discharges to surface water, but tertiary treatment that meets Title 22 California Code of Regulations requirements is required for certain reclaimed water uses. The Discharger intends to upgrade to tertiary treatment for purposes of reclaimed water use during the eight and one-half year conversion schedule set forth in the settlement agreement. The Central Coast Water Board may require the discharger to comply with more stringent water quality based standards beyond secondary treatment for discharges to surface water if necessary to protect the beneficial uses of waters of the state and the United States. With respect to the discharge to the ocean, the USFWS has concurred with USEPA's Biological Evaluation supporting the continued 301(h) waiver, which concluded that the continued discharge from the facility will have no likely adverse affects on the southern sea otter and the brown pelican. If the Central Coast Water Board receives new information to support the need to impose more stringent water quality based requirements beyond secondary, it may consider imposing such requirements only after required public notice and comment and hearing, but such information is not available at this time. Since tertiary treatment is not required by federal law, the settlement agreement requires at least secondary treatment.*

The RWQCB staff further states, in responding to Morro Bay's comments about tertiary treatment:

> ***Staff Response 1****: Water Board staff has carefully reviewed the Discharger's comment regarding the discussion of upgrading the facility to provide tertiary treatment. We agree that the Central Coast Water Board has no authority to require Disinfected Tertiary Treated Recycled Water…, due to the fact that the Discharger is not currently recycling its treated wastewater. Furthermore, the Water Board only has the legal authority to require at least secondary standards in accordance with 40 CFR Part 133 without new information.*
>
> *We understand that the Morro Bay City Council unanimously agreed to upgrade the Morro Bay/Cayucos Sanitary District Wastewater Treatment Plant to "meet tertiary standards with the intention to move towards reclamation" at its May 29, 2007 meeting. Further, the USFWS December 21, 2007 concurrence letter states, "our [USFWS] office believes this decision [to upgrade the plant to provide tertiary treatment] has significant potential to minimize the concern regarding possible effects on the otter. Proceeding to tertiary treatment would result in reduced loadings of a wide range of pollutants to the environment….The applicants' progress toward implementing their present commitment to tertiary treatment will also be a significant factor in any future Endangered Species Act analysis conducted by our office pertaining to this discharge." In light of these significant statements made by your governing board and the USFWS, Water*

> *Board staff recommends keeping the references to tertiary treatment. The revised settlement agreement will be consistent with this Order to eliminate any discrepancies between the two documents.*
>
> *Water Board staff has not altered effluent limitations to reflect the definition of Disinfected Tertiary Treated Recycled Water. Secondary standards, in accordance with 40 CFR Part 133, are maintained as the basis for effluent limitations.*

To further clarify its commitments to tertiary treatment, Morro Bay stated in a November 26, 2008, letter to the RWQCB and EPA:

> *MBCSD staffs primary concern is clarification of the fact that the Water Board only has the legal authority to require secondary treatment standards in accordance with 40 CFR Part 133. The City of Morro Bay and the Cayucos Sanitary Districts have an adopted policy to upgrade the MBCSD to tertiary treatment. While the response to comments acknowledges "…the Water Boards only has the legal authority to require at least full secondary standards in accordance with 40CFR Part 133…", the Order and accompanying staff report do not clearly differentiate between the Water Boards legal authority and MBCSD adopted policy. It is important to MBCSD that the Water Board differentiate between our policy decision (to voluntarily have the upgrade project beyond the requirements for secondary treatment) made by the Governing Bodies of the two communities, and the regulatory requirements to meet full secondary treatment requirements set forth in 40 C.F.R. Part 133. This is an important distinction as no discharger can be compelled to upgrade to tertiary treatment standards under the Clean Water Act and it should be clearly understood that policy decisions, not regulatory authority, determined the direction and standards to be achieved by the upgrade project*
>
> *An important example of the erroneous use of the reference to tertiary treatment is on page 12, II.AA of the Draft Order, it states that, "The Discharger has agreed to upgrade the Facility to tertiary treatment pursuant to a settlement agreement with the Central Coast Water Board." This statement is misleading, is not consistent with the record to date, and does not accurately reflect the language in the settlement agreement cited above. More importantly it misleads the public into the perception that the settlement agreement requires the City and District to upgrade to tertiary treatment.* [Emphasis in original]

The Fish and Wildlife Service has also based its concurrence on Morro Bay's agreement to implement conservation measures, including a implementing a public outreach program to minimize the input of cat litter-box wastes into the sewer system, and regular monitoring of nutrient loading from the facility's ocean outfall. Based on this agreement, the RWQCB Order requirements include:

Cat Litter Public Outreach Program
In accordance with its September 6, 2007 Biological Evaluation and letter to U.S. Fish and Wildlife, USEPA proposed that this permit include a public outreach program to minimize the input of cat litter-box waste into the municipal sewer system. This conservation measure, as proposed by USEPA, will reduce the likelihood of any possible adverse effects to brown pelican and southern sea otter. The Discharger shall develop and implement a cat litter public education program that includes, at a minimum, the following elements:

a. The Discharger will use existing public education efforts, such as periodic mailers accompanying utility bills, school visits, and distributing flyers at public forums involving wastewater issues, to communicate with the general public on the topic cat litter and waste disposal.

b. The Discharger will target specific commercial and professional establishments and to encourage them to establish appropriate policies and procedures to properly dispose of cat waste. These establishments include, but are not limited to, veterinary clinics, animal hospitals, animal shelters, pet stores, and pet grooming companies. The Discharger will encourage the aforementioned establishments to develop and implement best management practices prohibiting the flushing of cat waste, post signage in appropriate working areas, as well as provide adequate training for all employees. The Discharger will periodically contact the known establishments to ensure cat waste disposal policies are in place.

c. The Discharger shall submit a work plan six (6) months after the effective date of this Order. The work plan shall contain implementation goals in order to achieve the aforementioned activities. These implementation goals should identify quantifiable measures that can be tracked. The Discharger shall reevaluate these implementation goals on an annual basis.

The RWQCB Order also included monitoring of additional constituents relating to nutrient loading. Additional RWQCB responses to other concerns raised in the past two years are discussed on pages 10-13 of the RWQCB staff report, which can be found at: http://www.waterboards.ca.gov/centralcoast/board_decisions/tentative_orders/2008/2008_0065_mbc_staff_rpt.pdf.

5. <u>Commission Conclusion</u>. The information submitted by Morro Bay, combined with the supporting analysis and information from EPA and the RWQCB, and Morro Bay's commitment to implement full secondary treatment by March 2014, support Morro Bay's request for a continued secondary treatment waiver to cover the discharges in the interim while upgrading to secondary treatment. Historically, the Commission has generally concurred with consistency certifications for these types of waivers and waiver renewals, and found applicable

water quality and marine resource policies of the Coastal Act to be met, when: (1) adequate monitoring is in place; and (2) EPA and the appropriate RWQCB have determined that the discharger's effluent complies with the applicable Clean Water Act and Ocean Plan requirements. In this case, Morro Bay has monitored its discharges since its initial waiver was granted, and these monitoring efforts support its conclusions that its discharges meet the applicable water quality and marine resource requirements.

Most importantly, Morro Bay has now agreed to upgrade its facilities to provide for secondary treatment of its discharges (and possibly tertiary treatment), as described in the Settlement Agreement between the Morro Bay and the RWQCB (Exhibit 9). This agreement provides for an upgrade to full secondary treatment by March 2014. This time period is comparable to that accorded to Goleta and Orange County, and monitoring results do not support more stringent requirements (and in fact, an objection to this waiver could result in imposition of fines that may frustrate (i.e., divert funds needed for) achievement of secondary treatment levels.

Moreover, while secondary standards would result in consistent removal of 85% of SS and BOD, on an average basis, Morro Bay is fairly close to meeting these standards. As can be seen from the chart below, for the past 5 years Morro Bay has removed an average of over 90% of SS, and an average of over 83% of BOD. Morro Bay's annual monitoring report shows that the plant has been achieving BOD removal rates greater than 80% consistently since 1992:

Average Annual Wastewater Parameters

Year	Flow (MGD)	Suspended Solids Removal (percent)	Biochemical Oxygen Demand Removal (percent)
1986	1.42	89.8	67.2
1987	1.51	92.0	79.8
1988	1.51	90.0	81.9
1989	1.46	88.4	73.1
1990	1.38	89.6	71.0
1991	1.28	89.1	71.6
1992	1.41	86.3	73.5
1993	1.54	89.6	81.9
1994	1.38	89.4	86.4
1995	1.55	87.6	83.9
1996	1.55	89.9	85.0
1997	1.64	86.6	83.0
1998	1.95	83.9	81.5
1999	1.68	86.7	82.5
2000	1.77	87.5	81.1
2001	1.48	89.5	83.1
2002	1.14	86.0	82.4
2003	1.06	86.7	81.3

2004	1.09	91.3	83.8
2005	1.25	93.3	83.0
2006	1.19	93.2	83.8
2007	1.09	94.1	86.0
Mean	**1.42**	**89.2**	**80.4**
Permit Limitation	2.06	75.0	30.0

Source: Morro Bay 2005 Annual Report and personal communications with MBCSD

The Commission finds that evidence to date does not exist that would indicate that the discharges are adversely affecting sea otters, and in any event Morro Bay has committed to upgrading to secondary and (possibly tertiary) treatment. Monitoring results for the past 5 years and the available evidence about threats to sea otters support Morro Bay's claim that the discharges comply with secondary treatment waiver requirements and would not adversely affect marine resources. Based on EPA's analysis, including a review of plant performance and modeling efforts performed since the previous permit was issued, the outfall does not appear to be resulting in any significant reduction in light transmissivity, any biologically significant changes in benthic community structure in the vicinity of the outfall (beyond the zone of initial dilution), or any significant changes in fish populations or fish diseases in the area.

Absent a waiver the Clean Water Act would require removal of 85% of suspended solids (SS) and biochemical oxygen demand (BOD). Morro Bay regularly meets or is close to meeting secondary treatment standards for removal of SS and BOD. One MGD of flow is currently treated to secondary standards, and blending of secondary and primary effluent occurs less than 10% of the time. While increases in flows will increase the percentage of primary flows, the expected projected rate of growth for Morro Bay (approximately 10% over a 10 year period) indicates that discharges are not likely to increase substantially before full secondary treatment is implemented. The stringent monitoring required under the Section 301(h) program will be continued in the interim until full secondary treatment is achieved. Given Morro Bay's performance and monitoring results, as conditioned by the RWQCB, and with Morro Bay's commitment to upgrade to secondary (and possibly tertiary) within a reasonable time period (by March 2014, and with continued stringent monitoring in place during the interim), the Commission concludes that Morro Bay's discharges would be consistent with the applicable marine resource and water quality provisions (Sections 30230 and 30231) of the Coastal Act.

B. <u>Commercial Fishing/Recreation</u>. Section 30230 of the Coastal Act, quoted in full on page 16 above, includes a requirement that:

> *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.*

The Coastal Act also contains more specific policies protecting commercial and recreational fishing; Section 30234 provides:

> *Facilities serving the commercial fishing and recreational boating industries shall be protected and, where feasible, upgraded. Existing commercial fishing and recreational boating harbor space shall not be reduced unless the demand for those facilities no longer exists or adequate substitute space has been provided. Proposed recreational boating facilities shall, where feasible, be designed and located in such a fashion as not to interfere with the needs of the commercial fishing industry.*

Section 30234.5 provides:

> *The economic, commercial, and recreational importance of fishing activities shall be recognized and protected.*

The Coastal Act also protects public recreation (such as surfing and other water-contact recreation). Section 30213 provides, in part:

> *Lower cost visitor and recreational facilities shall be protected, encouraged, and, where feasible, provided.*

Section 30220 provides:

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

As discussed in the water quality/marine resource section above, the Sanitary District's monitoring efforts over the past five years are sufficient to enable a determination that commercial/recreational fishing is protected and other recreational concerns are met. EPA states the following concerning effects on fish populations:

> ***Fish**. Given the relatively small volume of discharge and small area of potential impact, EPA finds that potential for impacts to local fish populations to be unlikely. This is supported by the low concentrations and/or absence of toxics in the effluent which ensure that water quality standards are being met and the lack of impact to the benthic communities.*

Concerning recreational diving, EPA states:

> ***Impact of Discharge on Recreational Activities.** **…** The overall results of the shoreline fecal coliform monitoring effort for the last permit period indicates that shoreline contamination by way of the applicant's discharge is not of reasonable*

> *concern. This is likely due to the fact that the applicant disinfects its effluent prior to discharge. In contrast, fecal coliform concentrations from non- point sources, such as Morro Creek, likely contribute more significantly to shoreline bacterial contamination.*

As noted in response to NRDC's comments, the RWQCB further notes:

> *Since water contact recreation receiving water limitations are less stringent than shellfish harvesting limitations, this beach also meets water contact receiving water limitations. Independent monitoring supports this conclusion. County of San Luis Obispo Environmental Health Services (EHS) has been monitoring this beach at stations 75 feet north of the Morro Rock parking lot (near Station F), and at the projection of Atascadero Road (near Station E) weekly during summer months since November 2001, and weekly during winter months since February 2002. Heal the Bay's Beach Report Card (see www.healthebay.org/brc/annual/2003/counties/slo/grades.asp), which is based on EHS' monitoring results, gave both locations an A grade for Summer 2002, an A+ for Winter 2002-2003, and an A+ for Summer 2003.*

In reviewing Morro Bay's previous waiver (CC-123-98), the Commission found that Morro Bay's discharges addressed all applicable commercial/recreational fishing and other recreational concerns. The monitoring results since that time support the same conclusion that the Commission previously reached, and similar monitoring will be maintained for the period of this continuing waiver. Therefore, as discussed above with respect to marine resources, with continued monitoring, and with Morro Bay's commitment upgrade its facilities to provide for secondary treatment of its discharges by March 2014 (as described in the Settlement Agreement (Exhibit 9)), and as conditioned by the RWQCB, the Commission concludes that the discharges would be consistent with the applicable commercial and recreational fishing and general recreation policies (Sections 30230, 30234, 30234.5, 30213, and 30220) of the Coastal Act.

IX. SUBSTANTIVE FILE DOCUMENTS:

1. RWQCB Draft Order No. R3-2008-0065, Reissuance of Clean Water Act Section 301h Modified NPDES Permit No. CA0047881, Morro Bay/Cayucos Sanitary District

2. Settlement Agreement between RWQCB and Morro Bay/Cayucos Sanitary District, signed December 4, 2008.

3. EPA Tentative Decision, Morro Bay-Cayucos Sanitary District, Environmental Protection Agency, Region IX, November 10, 2005.

4. EPA Endangered Species Act Biological Evaluation, September 2007, and USFWS Concurrence, dated December 21, 2007.

5. Consistency Certifications for secondary treatment waiver renewals, CC-88-92 and CC-123-98 (City of Morro Bay), CC-13-02 and CC-126-96 (Goleta Sanitary District), CC-3-98 (County Sanitation Districts of Orange County (CSDOC)), and CC-10-02 and CC-28-02 (City of San Diego).

6. Consistency Certification No. CC-62-91/Coastal Development Permit No. 6-91-217 (City of San Diego, Point Loma outfall extension).

7. No Effects Determination NE-94-95 (City of San Diego, secondary treatment waiver).

8. Consistency Determination No. CD-137-96 (IBWC) International Boundary and Water Commission International Wastewater Treatment Plant Interim Operation.

X. Exhibits:

1. Area Map/Outfall
2. Outfall/Sampling Stations
3. Monitoring Stations/ZID
4. Flow Schematic
5. Benthic Sediment Monitoring Graph
6. Benthic Community Indices Graph
7. California Ocean Plan Tables A and B and Water Quality Objectives
8. EPA Tentative Decision, Morro Bay-Cayucos Sanitary District, Environmental Protection Agency, Region IX, November 10, 2005.
9. Settlement Agreement For Issuance of Permits to and Upgrade of the Morro Bay-Cayucos Wastewater Treatment Plant.
10. U.S. Fish and Wildlife Service letter, December 21, 2007

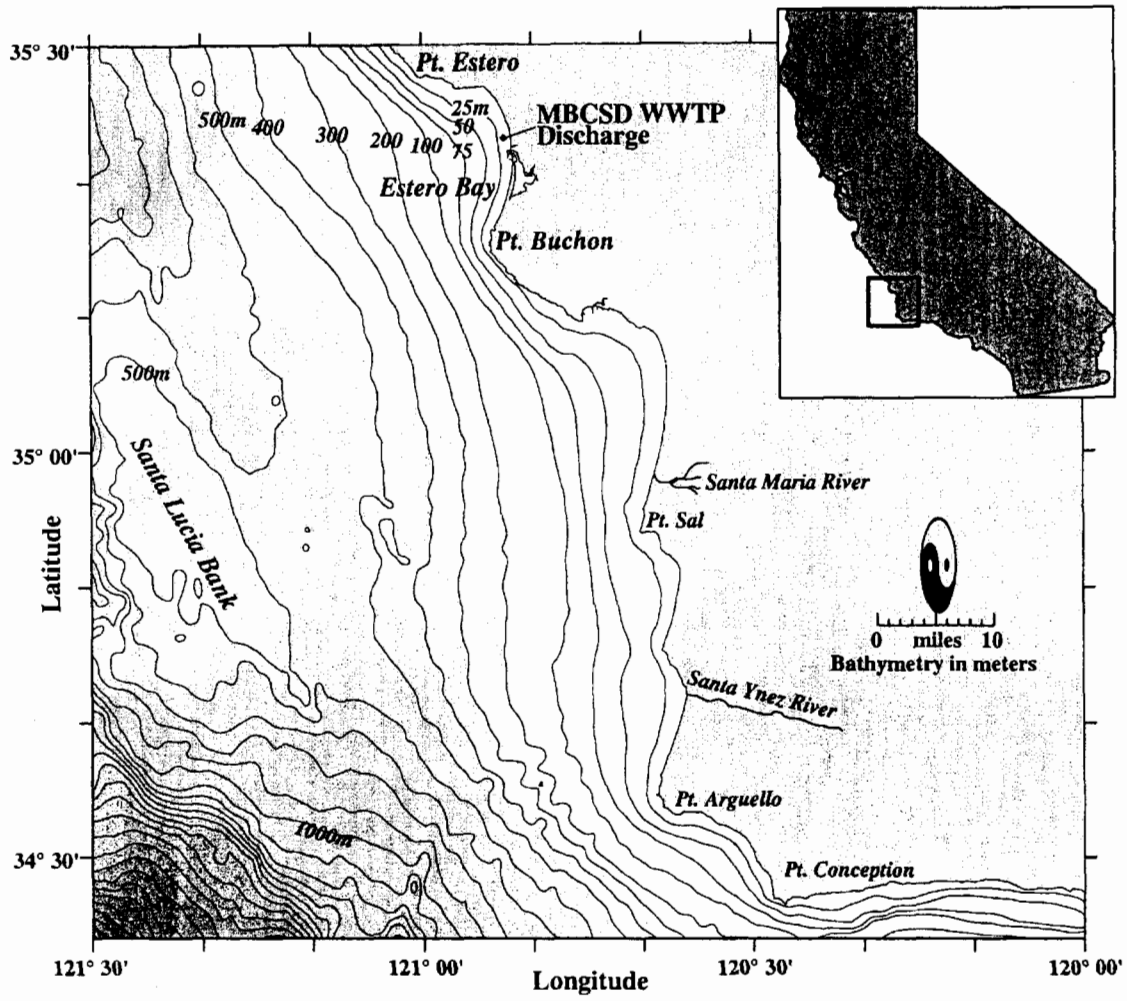


Figure 1. Location of the MBCSD Facility

EXHIBIT NO. 1
APPLICATION NO.
CC-007-06

ATTACHMENT B – TOPOGRAPHIC MAP

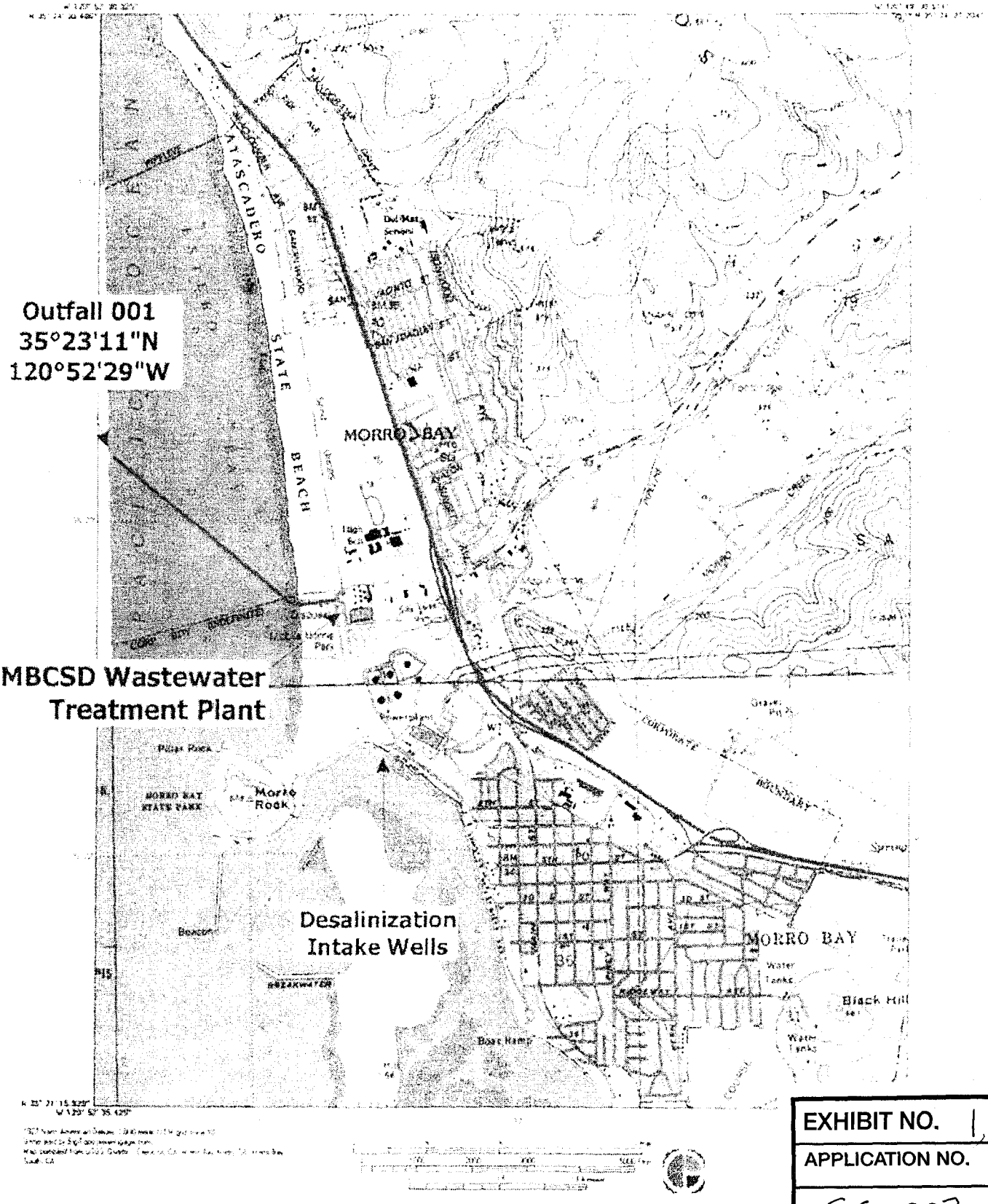


EXHIBIT NO. 1, 4. 2
APPLICATION NO.
CC-007-06

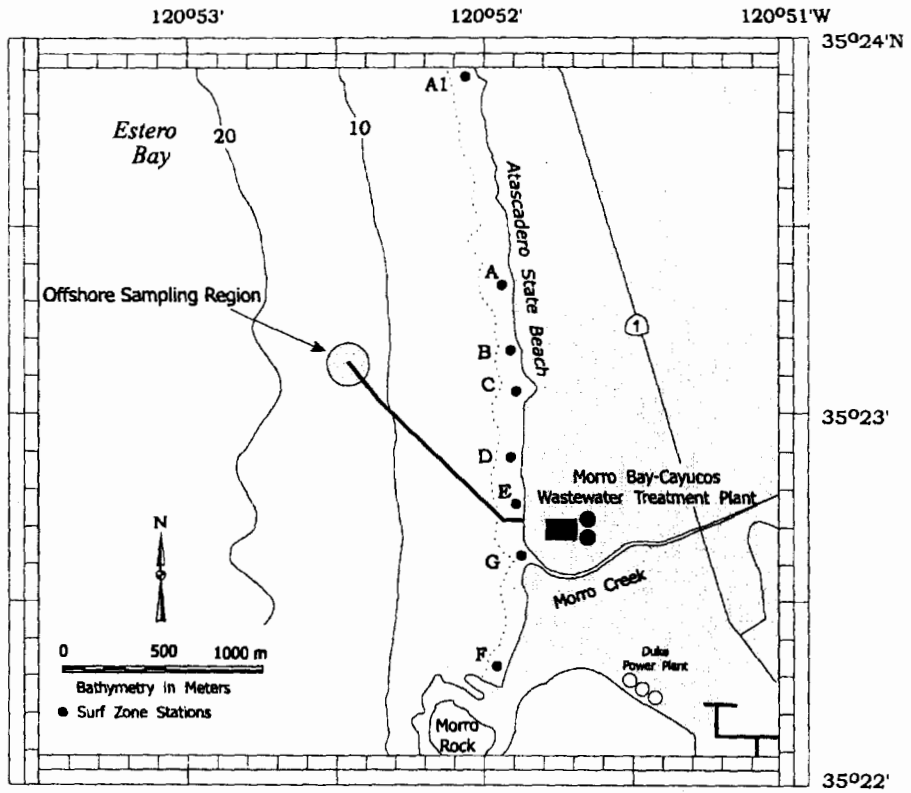


Figure 2. Location of MBCSD Outfall and Shoreline Monitoring Stations

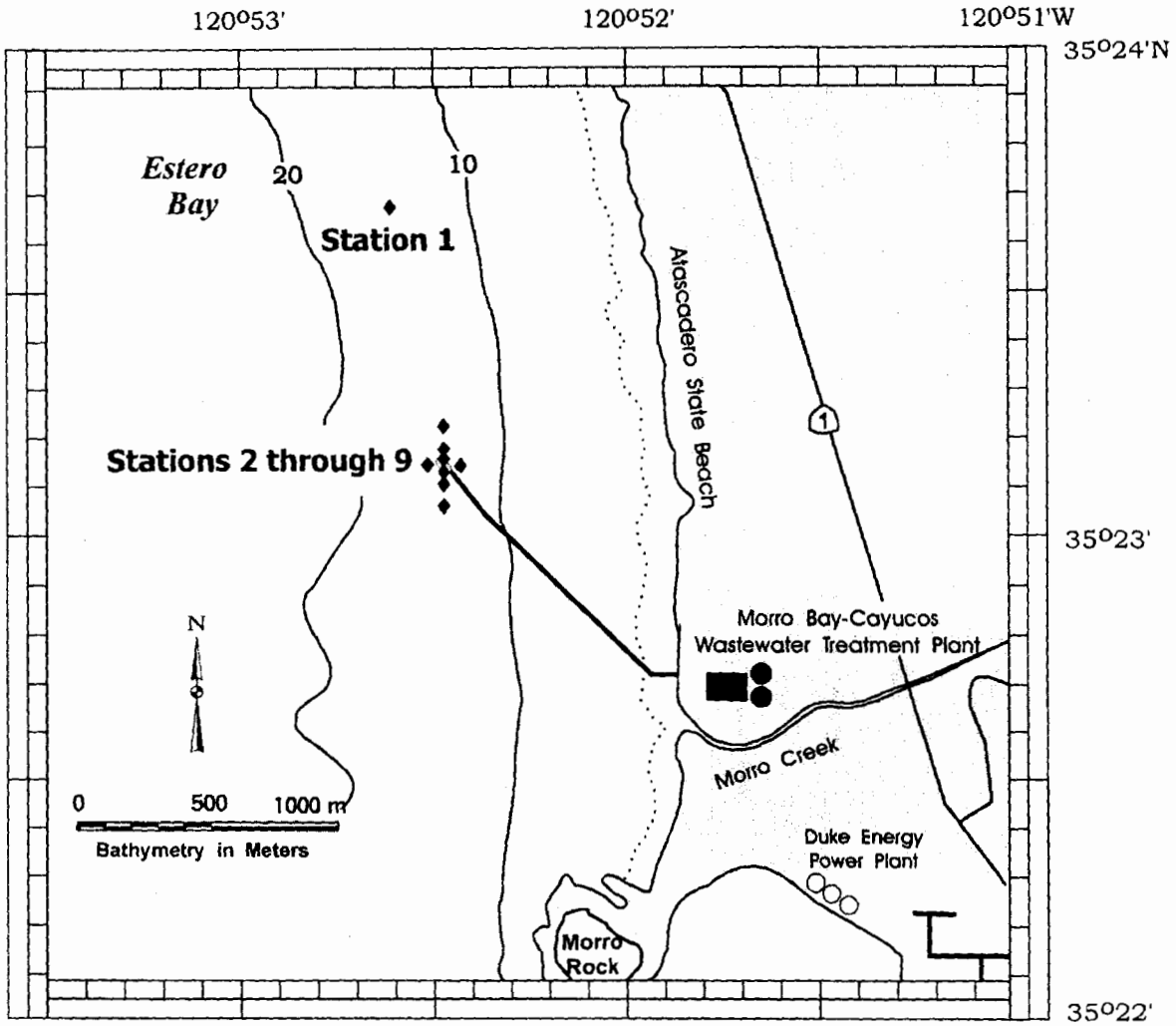


Figure 3. Benthic Sampling Stations

EXHIBIT NO. 2, f. 2
APPLICATION NO.
CC-0071-06

Monitoring Location Name	Description	Latitude	Longitude	Distance from Reference
Receiving Water (Ocean) Monitoring Locations				**Distance from Diffuser Center (m)**
RW-1	Upcoast Midfield	35° 23.253' N	120° 52.504' W	100
RW-2	Upcoast Nearfield	35° 23.231' N	120° 52.504' W	60
RW-3	Upcoast ZID	35° 23.210' N	120° 52.504' W	20
RW-4	Downcoast ZID	35° 23.188' N	120° 52.504' W	20
RW-5	Downcoast Nearfield	35° 23.167' N	120° 52.504' W	60
RW-6	Downcoast Midfield	35° 23.145' N	120° 52.504' W	100
Benthic Monitoring Locations				**Distance from Diffuser Center (m)**
B-2	Upcoast Reference	35° 23.280' N	120° 52.504' W	150
B-3	Upcoast Nearfield	35° 23.231' N	120° 52.504' W	60
B-4	Upcoast ZID	35° 23.210' N	120° 52.504' W	20
B-5	Downcoast ZID	35° 23.188' N	120° 52.504' W	20
B-6	Downcoast Nearfield	35° 23.167' N	120° 52.504' W	60
B-7	Downcoast Reference	35° 23.118' N	120° 52.504' W	150
B-8	Offshore Nearfield	35° 23.199' N	120° 52.544' W	60
B-9	Onshore Nearfield	35° 23.199' N	120° 52.464' W	60

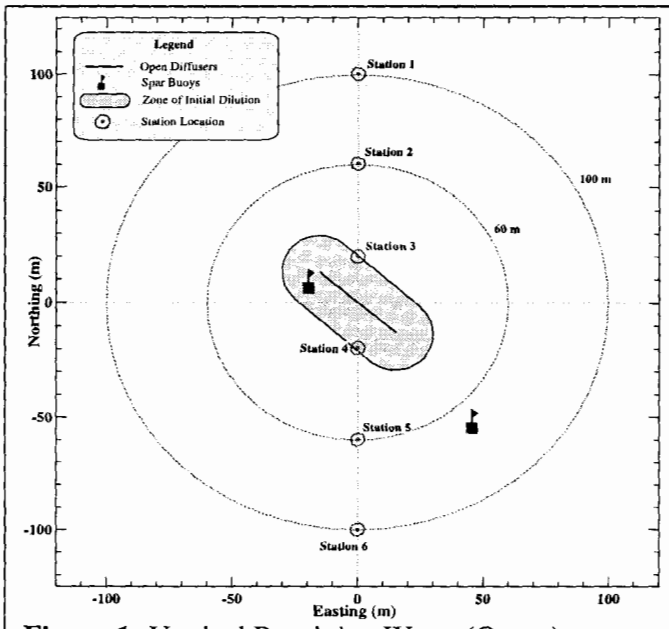


Figure 1: Vertical Receiving Water (Ocean) Monitoring Locations

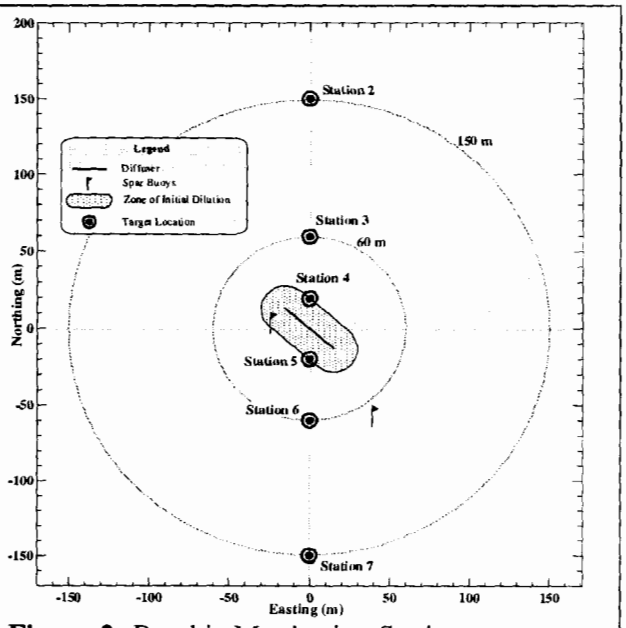


Figure 2: Benthic Monitoring Stations

EXHIBIT NO. 3
APPLICATION NO.
CC-007-06

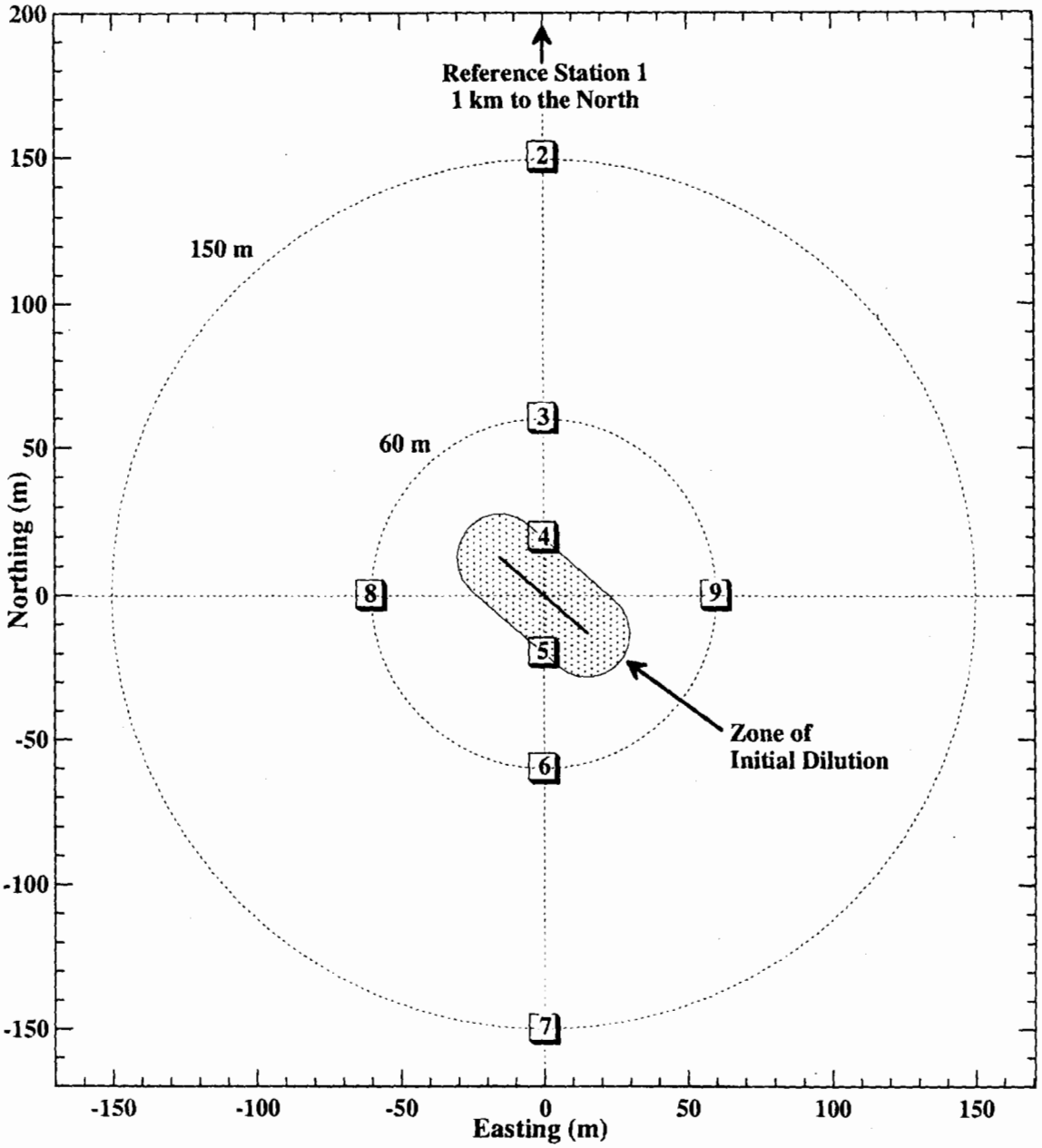
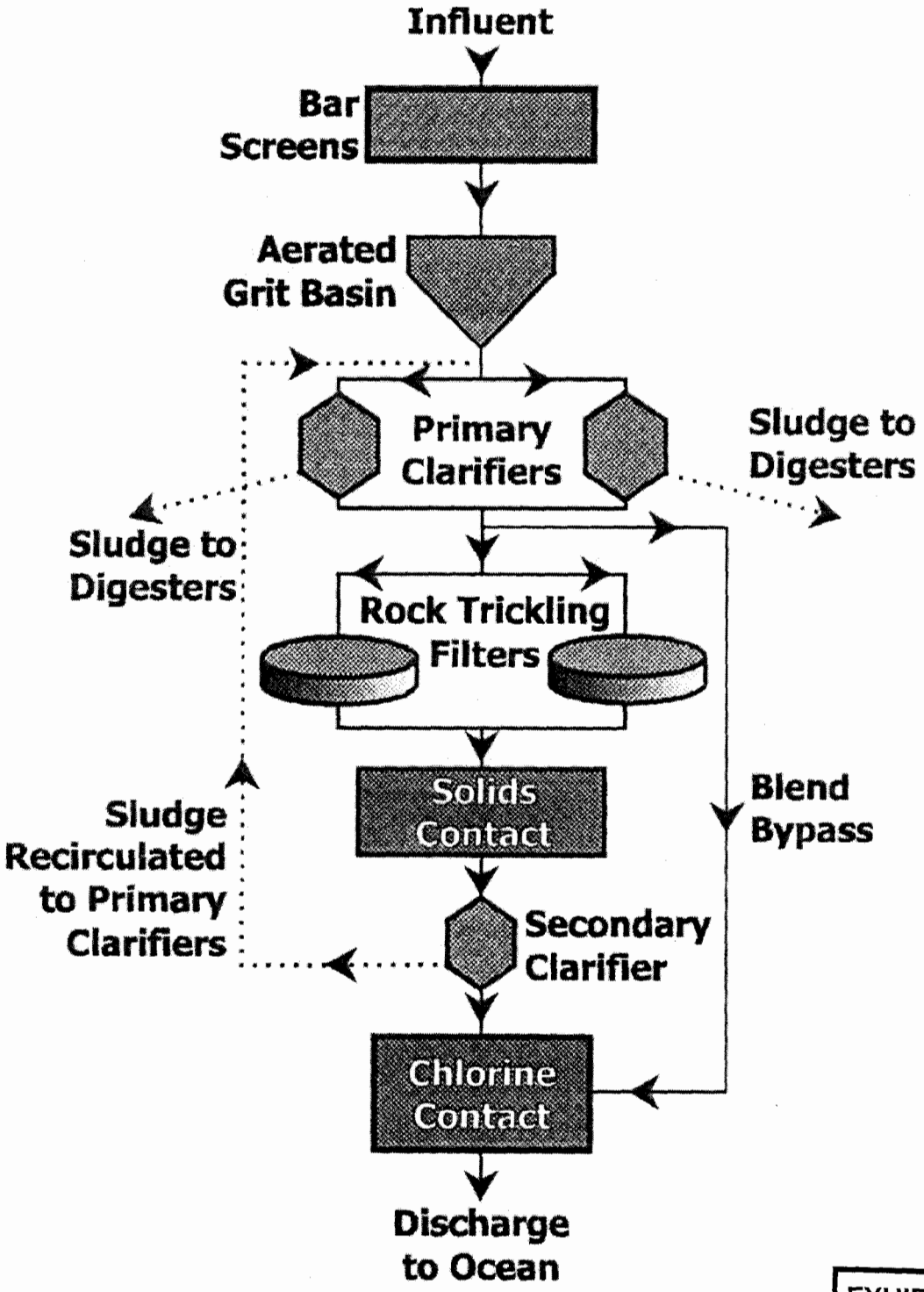


Figure 4. Benthic Sampling Stations Relative to the ZID

EXHIBIT NO. 3, 1.2
APPLICATION NO.

ATTACHMENT C – FLOW SCHEMATIC



These receiving water limitations are intended to protect marine life. Compliance with these requirements is not based solely on concentrations of organic-loading parameters in sediment. Compliance determinations must take into account the health of marine communities in the vicinity of the discharge.

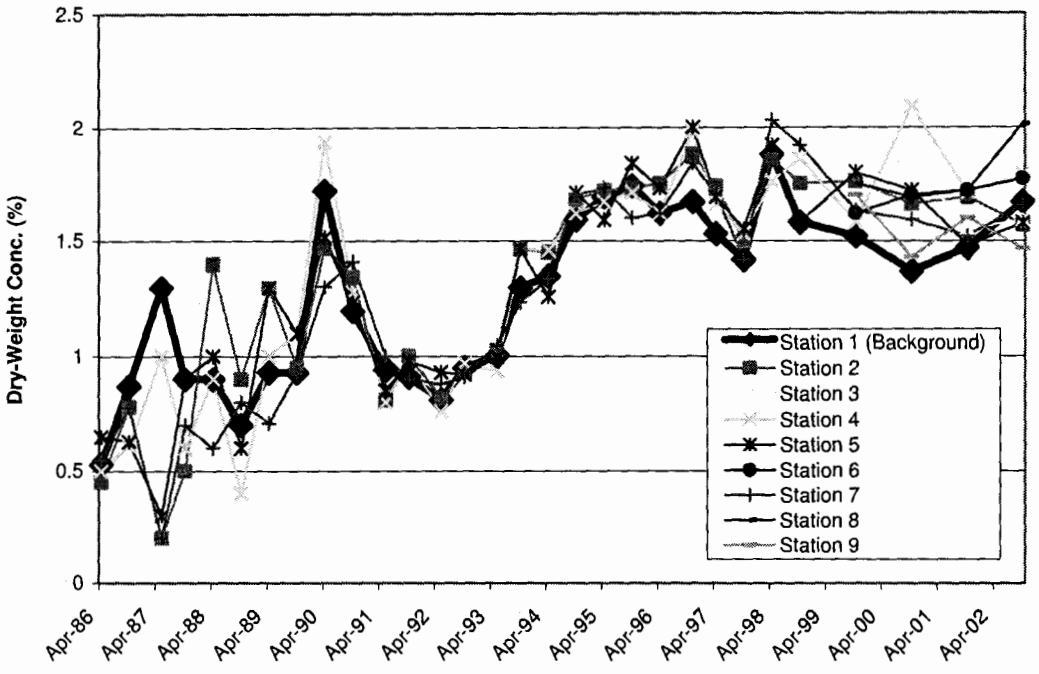


Figure 1: Benthic Sediment Volatile Solids

7. **Marine Life.** The Permit states "the discharge shall not cause degradation of marine communities, including vertebrate, invertebrate, and plant species."

   According to the 2001 California Ocean Plan:

   > "Degradation shall be determined by a comparison of the waste field and reference site(s) for characteristic species diversity, population density, contamination, growth anomalies, debility, or supplanting of normal species by undesirable plant and animal species. Degradation occurs if there are significant differences in any of three major biotic groups, namely, demersal fish, benthic invertebrates, or attached algae. Other groups may be evaluated where benthic species are not affected, or are not the only ones affected."

   The Dischargers have measured the health of the benthic (bottom-dwelling) community of marine life in the vicinity of the discharge since 1986. Benthic community s at each monitoring station are represented by indices of abundance, diversi trophic (feeding) structure. Figure 2 provides a succinct record of all these in

In simple terms, benthic community degradation would be characterized by:

- Greater fluctuations in organism density at stations closer to the discharge,
- Decreased number of species and diversity over time and in closer proximity to the discharge,
- Increased dominance over time and at stations in closer proximity to the discharge, and
- A trophic index less than 58.

Significant differences between areas near and distant from the discharge would be illustrated as a visible departure of the indices at stations near the outfall (shown in red (lighter), Stations

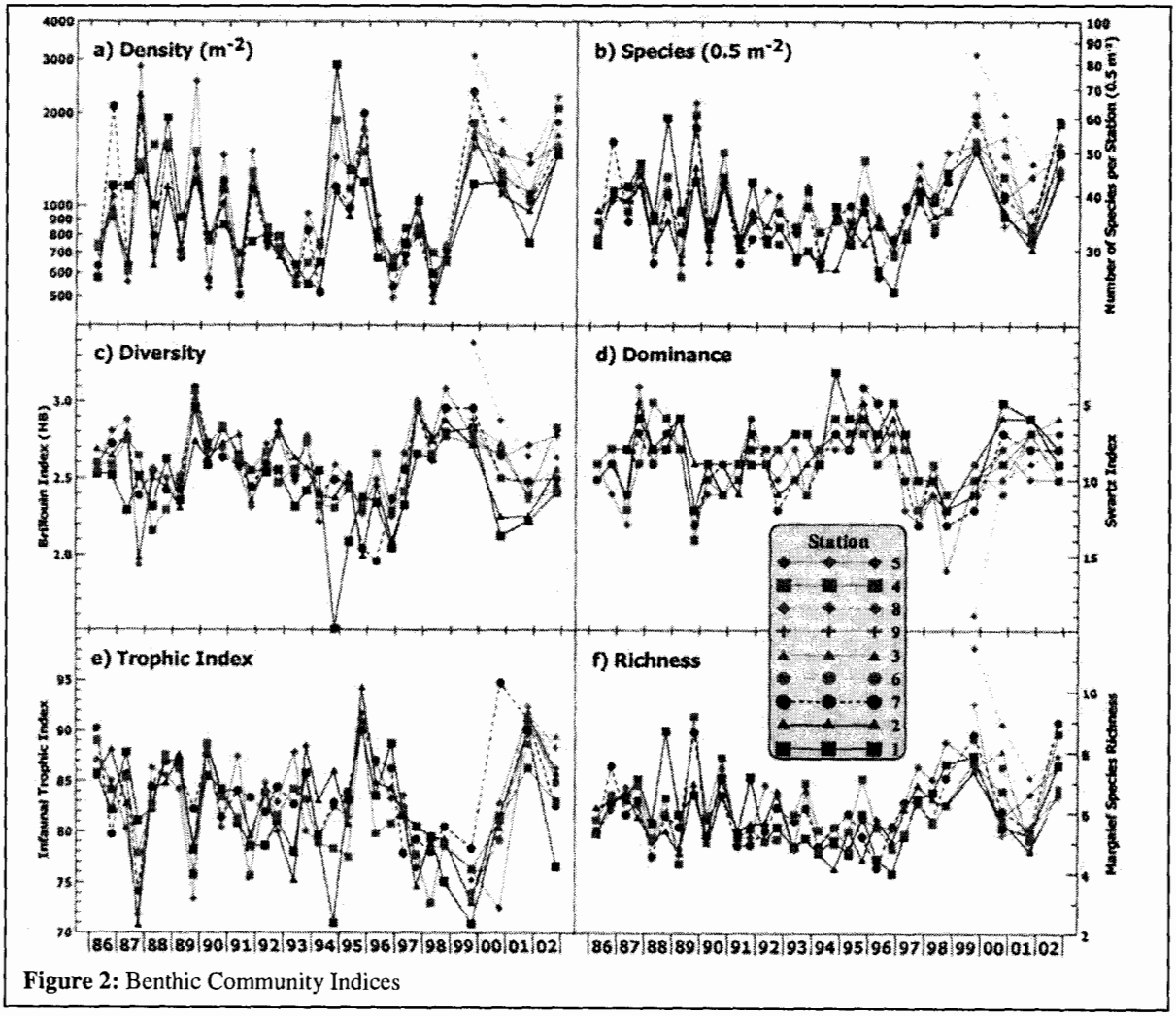


Figure 2: Benthic Community Indices

4 and 5) from the indices at distant stations (shown in black (darker), Stations 1, 2, and 7) in Figure 2.

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APPLICATION NO.
CC-007-06

II. WATER QUALITY OBJECTIVES

A. General Provisions

1. This chapter sets forth limits or levels of water quality characteristics for ocean* waters to ensure the reasonable protection of beneficial uses and the prevention of nuisance. The discharge of waste* shall not cause violation of these objectives.

2. The Water Quality Objectives and Effluent Limitations are defined by a statistical distribution when appropriate. This method recognizes the normally occurring variations in treatment efficiency and sampling and analytical techniques and does not condone poor operating practices.

3. Compliance with the water quality objectives of this chapter shall be determined from samples collected at stations representative of the area within the waste field where initial* dilution is completed.

B. Bacterial Characteristics

1. Water-Contact Standards

Both the SWRCB and the California Department of Health Services (DHS) have established standards to protect water contact recreation in coastal waters from bacterial contamination. Subsection a of this section contains bacterial objectives adopted by the SWRCB for ocean waters used for water contact recreation. Subsection b describes the bacteriological standards adopted by DHS for coastal waters adjacent to public beaches and public water contact sports areas in ocean waters.

a. SWRCB Water-Contact Standards

(1) Within a zone bounded by the shoreline and a distance of 1,000 feet from the shoreline or the 30-foot depth contour, whichever is further from the shoreline, and in areas outside this zone used for water contact sports, as determined by the Regional Board (i.e., waters designated as REC-1), but including all kelp* beds, the following bacterial objectives shall be maintained throughout the water column:

30-day Geometric Mean – The following standards are based on the geometric mean of the five most recent samples from each site:

i. Total coliform density shall not exceed 1,000 per 100 ml;
ii. Fecal coliform density shall not exceed 200 per 100 ml; and
iii. Enterococcus density shall not exceed 35 per 100ml.

Single Sample Maximum:

i. Total coliform density shall not exceed 10,000 per 100 ml;
ii. Fecal coliform density shall not exceed 400 per 100ml;
iii. Enterococcus density shall not exceed 104 per 100 ml; an

* See Appendix I for definition of terms.

EXHIBIT NO. 7
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Ca. Ocean Plan

iv. Total coliform density shall not exceed 1,000 per 100 ml when the fecal coliform/total coliform ratio exceeds 0.1.

(2) The "Initial* Dilution Zone" of wastewater outfalls shall be excluded from designation as "kelp* beds" for purposes of bacterial standards, and Regional Boards should recommend extension of such exclusion zone where warranted to the SWRCB (for consideration under Chapter III.H.). Adventitious assemblages of kelp plants on waste discharge structures (e.g., outfall pipes and diffusers) do not constitute kelp* beds for purposes of bacterial standards.

b. DHS Standards

DHS has established minimum protective bacteriological standards for coastal waters adjacent to public beaches and for public water-contact sports areas in ocean waters. These standards are found in the California Code of Regulations, title 17, section 7958, and they are identical to the objectives contained in subsection a. above. When a public beach or public water-contact sports area fails to meet these standards, DHS or the local public health officer may post with warning signs or otherwise restrict use of the public beach or public water-contact sports area until the standards are met. The DHS regulations impose more frequent monitoring and more stringent posting and closure requirements on certain high-use public beaches that are located adjacent to a storm drain that flows in the summer.

For beaches not covered under AB 411 regulations, DHS imposes the same standards as contained in Title 17 and requires weekly sampling but allows the county health officer more discretion in making posting and closure decisions.

2. Shellfish* Harvesting Standards

a. At all areas where shellfish* may be harvested for human consumption, as determined by the Regional Board, the following bacterial objectives shall be maintained throughout the water column:

(1) The median total coliform density shall not exceed 70 per 100 ml, and not more than 10 percent of the samples shall exceed 230 per 100 ml.

C. Physical Characteristics

1. Floating particulates and grease and oil shall not be visible.

2. The discharge of waste* shall not cause aesthetically undesirable discoloration of the ocean* surface.

3. Natural* light shall not be significantly* reduced at any point outside the initial* dilution zone as the result of the discharge of waste*.

* See Appendix I for definition of terms.

4. The rate of deposition of inert solids and the characteristics of inert solids in ocean* sediments shall not be changed such that benthic communities are degraded*.

D. Chemical Characteristics

1. The dissolved oxygen concentration shall not at any time be depressed more than 10 percent from that which occurs naturally, as the result of the discharge of oxygen demanding waste* materials.
2. The pH shall not be changed at any time more than 0.2 units from that which occurs naturally.
3. The dissolved sulfide concentration of waters in and near sediments shall not be significantly* increased above that present under natural conditions.
4. The concentration of substances set forth in Chapter II, Table B, in marine sediments shall not be increased to levels which would degrade* indigenous biota.
5. The concentration of organic materials in marine sediments shall not be increased to levels that would degrade* marine life.
6. Nutrient materials shall not cause objectionable aquatic growths or degrade* indigenous biota.
7. Numerical Water Quality Objectives
   a. Table B water quality objectives apply to all discharges within the jurisdiction of this Plan.
   b. Table B Water Quality Objectives

* See Appendix I for definition of terms.

TABLE B
WATER QUALITY OBJECTIVES

	Units of Measurement	Limiting Concentrations 6-Month Median	Daily Maximum	Instantaneous Maximum
OBJECTIVES FOR PROTECTION OF MARINE AQUATIC LIFE				
Arsenic	ug/l	8.	32.	80.
Cadmium	ug/l	1.	4.	10.
Chromium (Hexavalent) (see below, a)	ug/l	2.	8.	20.
Copper	ug/l	3.	12.	30.
Lead	ug/l	2.	8.	20.
Mercury	ug/l	0.04	0.16	0.4
Nickel	ug/l	5.	20.	50.
Selenium	ug/l	15.	60.	150.
Silver	ug/l	0.7	2.8	7.
Zinc	ug/l	20.	80.	200.
Cyanide (see below, b)	ug/l	1.	4.	10.
Total Chlorine Residual (For intermittent chlorine sources see below, c)	ug/l	2.	8.	60.
Ammonia (expressed as nitrogen)	ug/l	600.	2400.	6000.
Acute* Toxicity	TUa	N/A	0.3	N/A
Chronic* Toxicity	TUc	N/A	1.	N/A
Phenolic Compounds (non-chlorinated)	ug/l	30.	120.	300.
Chlorinated Phenolics	ug/l	1.	4.	10.
Endosulfan	ug/l	0.009	0.018	0.027
Endrin	ug/l	0.002	0.004	0.006
HCH*	ug/l	0.004	0.008	0.012
Radioactivity	Not to exceed limits specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 3, Section 30253 of the California Code of Regulations. Reference to Section 30253 is prospective, including future changes to any incorporated provisions of federal law, as the changes take effect.			

* See Appendix I for definition of terms.

Table B Continued

Chemical	30-day Average (ug/l) Decimal Notation	Scientific Notation
OBJECTIVES FOR PROTECTION OF HUMAN HEALTH – NONCARCINOGENS		
acrolein	220.	2.2×10^{2}
antimony	1,200.	1.2×10^{3}
bis(2-chloroethoxy) methane	4.4	4.4×10^{0}
bis(2-chloroisopropyl) ether	1,200.	1.2×10^{3}
chlorobenzene	570.	5.7×10^{2}
chromium (III)	190,000.	1.9×10^{5}
di-n-butyl phthalate	3,500.	3.5×10^{3}
dichlorobenzenes*	5,100.	5.1×10^{3}
diethyl phthalate	33,000.	3.3×10^{4}
dimethyl phthalate	820,000.	8.2×10^{5}
4,6-dinitro-2-methylphenol	220.	2.2×10^{2}
2,4-dinitrophenol	4.0	4.0×10^{0}
ethylbenzene	4,100.	4.1×10^{3}
fluoranthene	15.	1.5×10^{1}
hexachlorocyclopentadiene	58.	5.8×10^{1}
nitrobenzene	4.9	4.9×10^{0}
thallium	2.	$2. \times 10^{0}$
toluene	85,000.	8.5×10^{4}
tributyltin	0.0014	1.4×10^{-3}
1,1,1-trichloroethane	540,000.	5.4×10^{5}
OBJECTIVES FOR PROTECTION OF HUMAN HEALTH – CARCINOGENS		
acrylonitrile	0.10	1.0×10^{-1}
aldrin	0.000022	2.2×10^{-5}
benzene	5.9	5.9×10^{0}
benzidine	0.000069	6.9×10^{-5}
beryllium	0.033	3.3×10^{-2}
bis(2-chloroethyl) ether	0.045	4.5×10^{-2}
bis(2-ethylhexyl) phthalate	3.5	3.5×10^{0}
carbon tetrachloride	0.90	9.0×10^{-1}
chlordane*	0.000023	2.3×10^{-5}
chlorodibromomethane	8.6	8.6×10^{0}

* See Appendix I for definition of terms.

Table B Continued

Chemical	30-day Average (ug/l) Decimal Notation	Scientific Notation
OBJECTIVES FOR PROTECTION OF HUMAN HEALTH – CARCINOGENS		
chloroform	130.	1.3×10^{2}
DDT*	0.00017	1.7×10^{-4}
1,4-dichlorobenzene	18.	1.8×10^{1}
3,3'-dichlorobenzidine	0.0081	8.1×10^{-3}
1,2-dichloroethane	28.	2.8×10^{1}
1,1-dichloroethylene	0.9	9×10^{-1}
dichlorobromomethane	6.2	6.2×10^{0}
dichloromethane	450.	4.5×10^{2}
1,3-dichloropropene	8.9	8.9×10^{0}
dieldrin	0.00004	4.0×10^{-5}
2,4-dinitrotoluene	2.6	2.6×10^{0}
1,2-diphenylhydrazine	0.16	1.6×10^{-1}
halomethanes*	130.	1.3×10^{2}
heptachlor	0.00005	5×10^{-5}
heptachlor epoxide	0.00002	2×10^{-5}
hexachlorobenzene	0.00021	2.1×10^{-4}
hexachlorobutadiene	14.	1.4×10^{1}
hexachloroethane	2.5	2.5×10^{0}
isophorone	730.	7.3×10^{2}
N-nitrosodimethylamine	7.3	7.3×10^{0}
N-nitrosodi-N-propylamine	0.38	3.8×10^{-1}
N-nitrosodiphenylamine	2.5	2.5×10^{0}
PAHs*	0.0088	8.8×10^{-3}
PCBs*	0.000019	1.9×10^{-5}
TCDD equivalents*	0.0000000039	3.9×10^{-9}
1,1,2,2-tetrachloroethane	2.3	2.3×10^{0}
tetrachloroethylene	2.0	2.0×10^{0}
toxaphene	0.00021	2.1×10^{-4}
trichloroethylene	27.	2.7×10^{1}
1,1,2-trichloroethane	9.4	9.4×10^{0}
2,4,6-trichlorophenol	0.29	2.9×10^{-1}
vinyl chloride	36.	3.6×10^{1}

* See Appendix I for definition of terms.

Table B Notes:

a) Dischargers may at their option meet this objective as a total chromium objective.

b) If a discharger can demonstrate to the satisfaction of the Regional Board (subject to EPA approval) that an analytical method is available to reliably distinguish between strongly and weakly complexed cyanide, effluent limitations for cyanide may be met by the combined measurement of free cyanide, simple alkali metal cyanides, and weakly complexed organometallic cyanide complexes. In order for the analytical method to be acceptable, the recovery of free cyanide from metal complexes must be comparable to that achieved by the approved method in 40 CFR PART 136, as revised May 14, 1999.

c) Water quality objectives for total chlorine residual applying to intermittent discharges not exceeding two hours, shall be determined through the use of the following equation:

$$\log y = -0.43 (\log x) + 1.8$$

where: y = the water quality objective (in ug/l) to apply when chlorine is being discharged;
x = the duration of uninterrupted chlorine discharge in minutes.

E. Biological Characteristics

1. Marine communities, including vertebrate, invertebrate, and plant species, shall not be degraded*.

2. The natural taste, odor, and color of fish, shellfish*, or other marine resources used for human consumption shall not be altered.

3. The concentration of organic materials in fish, shellfish* or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health.

F. Radioactivity

1. Discharge of radioactive waste* shall not degrade* marine life.

* See Appendix I for definition of terms.

e. Waste* that contains pathogenic organisms or viruses should be discharged a sufficient distance from shellfishing* and water-contact sports areas to maintain applicable bacterial standards without disinfection. Where conditions are such that an adequate distance cannot be attained, reliable disinfection in conjunction with a reasonable separation of the discharge point from the area of use must be provided. Disinfection procedures that do not increase effluent toxicity and that constitute the least environmental and human hazard should be used.

3. Areas of Special Biological Significance

   a. ASBS* shall be designated by the SWRCB following the procedures provided in Appendix IV. A list of ASBS* is available in Appendix V.

4. Combined Sewer Overflow: Not withstanding any other provisions in this plan, discharges from the City of San Francisco's combined sewer system are subject to the US EPA's Combined Sewer Overflow Policy.

B. Table A Effluent Limitations

TABLE A
EFFLUENT LIMITATIONS

	Unit of Measurement	Limiting Concentrations: Monthly (30-day Average)	Weekly (7-day Average)	Maximum at any time
Grease and Oil	mg/l	25.	40.	75.
Suspended Solids			See below +	
Settleable Solids	Ml/l	1.0	1.5	3.0
Turbidity	NTU	75.	100.	225.
PH	Units		Within limit of 6.0 to 9.0 at all times	

Table A Notes:

+ Suspended Solids: Dischargers shall, as a 30-day average, remove 75% of suspended solids from the influent stream before discharging wastewaters to the ocean*, except that the effluent limitation to be met shall not be lower than 60 mg/l. Regional Boards may recommend that the SWRCB (Chapter IIIJ), with the concurrence of the Environmental Protection Agency, adjust the lower effluent concentration limit (the 60 mg/l above) to suit the environmental and effluent characteristics of the discharge. As a further consideration in making such recommendation for adjustment, Regional Boards should evaluate effects on existing and potential water* reclamation projects.

  If the lower effluent concentration limit is adjusted, the discharger shall remove 75% of suspended solids from the influent stream at any time the influent concentration exceeds four times such adjusted effluent limit.

1. Table A effluent limitations apply only to publicly owned treatment works and industrial discharges for which Effluent Limitations Guidelines have not been established pursuant to Sections 301, 302, 304, or 306 of the Federal Clean Water Act.

* See Appendix I for definition of terms.

2. Table A effluent limitations shall apply to a discharger's total effluent, of whatever origin (i.e., gross, not net, discharge), except where otherwise specified in this Plan.

3. The SWRCB is authorized to administer and enforce effluent limitations established pursuant to the Federal Clean Water Act. Effluent limitations established under Sections 301, 302, 306, 307, 316, 403, and 405 of the aforementioned Federal Act and administrative procedures pertaining thereto are included in this plan by reference. Compliance with Table A effluent limitations, or Environmental Protection Agency Effluent Limitations Guidelines for industrial discharges, based on Best Practicable Control Technology, shall be the minimum level of treatment acceptable under this plan, and shall define reasonable treatment and waste control technology.

C. Implementation Provisions for Table B

1. Effluent concentrations calculated from Table B water quality objectives shall apply to a discharger's total effluent, of whatever origin (i.e., gross, not net, discharge), except where otherwise specified in this Plan.

2. If the Regional Water Board determines, using the procedures in Appendix VI, that a pollutant is discharged into ocean* waters at levels which will cause, have the reasonable potential to cause, or contribute to an excursion above a Table B water quality objective, the Regional Water Board shall incorporate a water quality-based effluent limitation in the Waste Discharge Requirement for the discharge of that pollutant.

3. Effluent limitations shall be imposed in a manner prescribed by the State Water Board such that the concentrations set forth below as water quality objectives shall not be exceeded in the receiving water upon completion of initial* dilution, except that objectives indicated for radioactivity shall apply directly to the undiluted waste* effluent.

4. Calculation of Effluent Limitations

   a. Effluent limitations for water quality objectives listed in Table B, with the exception of acute* toxicity and radioactivity, shall be determined through the use of the following equation:

      Equation 1: $Ce = Co + Dm (Co - Cs)$

      where:

      Ce = the effluent concentration limit, ug/l

      Co = the concentration (water quality objective) to be met at the completion of initial* dilution, ug/l

      Cs = background seawater concentration (see Table C below), ug/l

      Dm = minimum probable initial* dilution expressed as parts seawater per part wastewater.

* See Appendix I for definition of terms.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

OFFICE OF THE
REGIONAL ADMINISTRATOR

In Re:

CITY OF MORRO BAY/CAYUCOS SANITARY DISTRICTS, APPLICATION FOR A MODIFIED NPDES PERMIT UNDER SECTION 301(h) OF THE CLEAN WATER ACT	TENTATIVE DECISION OF THE REGIONAL ADMINISTRATOR PURSUANT TO 40 CFR PART 125, SUBPART G

I have reviewed the attached evaluation analyzing the merits of the application of the City of Morro Bay/Cayucos Sanitary District (MBCSD) requesting a variance from secondary treatment requirements of the Clean Water Act (the Act) pursuant to section 301(h). It is my tentative decision that MBCSD be granted a variance in accordance with the terms, conditions and limitations of the attached evaluation, subject to concurrence by the State of California with the granting of a variance as required by section 301(h) of the Act. USEPA Region 9 will prepare a draft modified National Pollutant Discharge Elimination System (NPDES) permit in accordance with this decision.

Because my decision is based on available evidence specific to this particular discharge, it is not intended to assess the need for secondary treatment in general, nor does it reflect on the necessity for secondary treatment by other publicly owned treatment works discharging to the marine environment. This decision and the NPDES permit implementing this decision are subject to revision on the basis of subsequently acquired information relating to the impacts of the less-than-secondary discharge on the marine environment.

Under the procedures of the Permit Regulations, 40 CFR Part 124 (45 Fed. Reg. 33848 et seq.) public notice, comment and administrative appeals regarding this decision and accompanying draft NPDES permit will be made available to interested persons.

Dated: 11/10/05

WAYNE NASTRI
Regional Administrator

EXHIBIT NO. 8
APPLICATION NO.
CC-007-06
EPA

INTRODUCTION

The City of Morro Bay and the Cayucos Sanitary District (the applicant) has requested a variance under section 301(h) of the Clean Water Act, 33 U.S.C. section 1311(h), from the secondary treatment requirements contained in section 301(b)(1)(B) of the Act, 33 U.S.C. section 1311(b)(1)(B). The variance is being sought for the Morro Bay-Cayucos Wastewater Treatment Plant, which is a publicly owned treatment works (POTW). The applicant is seeking permit renewal for a variance from secondary treatment requirements for the discharge of sewage into the Pacific Ocean (Estero Bay) located off of Central California. This document presents Findings, Conclusions, and Recommendations of the U.S. Environmental Protection Agency (EPA) Region 9, Water Division regarding the compliance of the applicant's proposed discharge with the criteria set forth in section 301(h) of the Act as implemented by regulations contained in 40 CFR Part 125, Subpart G (59 Fed. Reg. 40642, August 9, 1994).

Secondary treatment is defined in regulations (40 CFR Part 133) in terms of effluent quality for suspended solids (SS), biochemical oxygen demand (BOD) and pH. The secondary treatment requirements for SS, BOD and pH are listed below:

SS: (1) The 30-day average shall not exceed 30 mg/L. (2) The 7-day average shall not exceed 45 mg/L. (3) The 30-day average percent removal shall not be less than 85%;

BOD: (1) The 30-day average shall not exceed 30 mg/L. (2) The 7-day average shall not exceed 45 mg/L. (3) The 30-day average percent removal shall not be less than 85%;

pH: The effluent limits for pH shall be maintained within the limits of 6.0 to 9.0 pH units.

A modified NPDES permit was issued to the City of Morro Bay and the Cayucos Sanitary District in March 1985 (Permit No. CA0047881) by the U.S. Environmental Protection Agency (EPA), Region 9 and the California Regional Water Quality Control Board, Central Coast (RWQCB). This original permit expired in March of 1990 and has been reissued by EPA and the RWQCB twice since, in March 1993 and March 1999. The current (re-issued) permit expired on March 1, 2004, and has been administratively extended until a decision regarding the application is made.

The current permit contains the following limits for SS and BOD:

SS: (1) A 30-day average for suspended solids of 70 mg/L. (2) The maximum allowable at any time shall not exceed 105 mg/L. (3) The 30-day average percent removal shall not be less than 75%.

BOD: (1) The 30-day average shall not exceed 120 mg/L. (2) The maximum allowable at any time shall not exceed 180 mg/L.

The applicant submitted a renewal application for a modification of secondary treatment requirements in July 2003 requesting a continued variance for SS and BOD based on the current effluent limitations and characteristics.

The Morro Bay-Cayucos Wastewater treatment plant provides full primary and partial secondary wastewater treatment for a service population of about 13,800. The application is based on an average dry-weather flow of 2.06 million gallons per day (MGD). Based on the definition in 40 CFR 125.58(c), the applicant is considered to be a small discharger.

DECISION CRITERIA

Under section 301(b)(1)(B) of the Act, 33 U.S.C. section 1311(b)(1)(B), publicly owned treatment works (POTWs) in existence on July 1, 1977, were required to meet effluent limitations based upon secondary treatment as defined by the Administrator of EPA. Secondary treatment has been defined by the Administrator in terms of three parameters: biological oxygen demand (BOD), suspended solids (SS), and pH. Uniform national effluent limitations for these pollutants were promulgated and included in National Pollutant Discharge Elimination System (NPDES) permits for POTWS issued under section 402 of the Act. POTWs were required to comply with these limitations by July 1, 1977.

Congress subsequently amended the Act, adding section 301(h), which authorizes the Administrator, with State concurrence, to issue NPDES permits which modify the secondary treatment requirements of the Act [P.L. 95-217, 91 Stat. 1566, as amended by, P.L. 97-117, 95 Stat. 1623; and section 303 of the Water Quality Act (WQA) of 1987]. Section 301(h) provides that the Administrator, with the concurrence of the State, may issue a permit under section 402 [of the Act] which modifies the requirements of subsection (b)(1)(B) of this section [the secondary treatment requirements] with respect to the discharge of any pollutant from a publicly owned treatment works into marine waters, if the applicant demonstrates to the satisfaction of the Administrator that:

(1) there is an applicable water quality standard specific to the pollutant for which the modification is requested, which has been identified under section 304(a)(6) of this Act;

(2) the discharge of pollutants in accordance with such modified requirements will not interfere, alone or in combination with pollutants from other sources, with the attainment or maintenance of that water quality which assures

protection of public water supplies and the protection and propagation of a balanced, indigenous population (BIP) of shellfish, fish, and wildlife, and allows recreational activities, in and on the water;

(3) the applicant has established a system for monitoring the impact of such discharge on a representative sample of aquatic biota, to the extent practicable, and the scope of the monitoring is limited to include only those scientific investigations which are necessary to study the effects of the proposed discharge;

(4) such modified requirements will not result in any additional requirements on any other point or nonpoint source;

(5) all applicable pretreatment requirements for sources introducing waste into such treatment works will be enforced;

(6) in the case of any treatment works serving a population of 50,000 or more, with respect to any toxic pollutant introduced into such works by an industrial discharger for which pollutant there is no applicable pretreatment requirement in effect, sources introducing waste into such works are in compliance with all applicable pretreatment requirements, the applicant will enforce such requirements, and the applicant has in effect a pretreatment program, which, in combination with the treatment of discharges from such works, removes the same amount of such pollutant as would be removed if such works were to apply secondary treatment to discharges and if such works had no pretreatment program with respect to such pollutant;

(7) to the extent practicable, the applicant has established a schedule of activities designed to eliminate the entrance of toxic pollutants from nonindustrial sources into such treatment works;

(8) there will be no new or substantially increased discharges from the point source of the pollutant to which the modification applies above that volume of discharge specified in the permit;

(9) the applicant at the time such modification becomes effective will be discharging effluent which has received at least primary or equivalent treatment and which meets the criteria established under section 304(a)(1) of the Clean Water Act after initial mixing in the waters surrounding or adjacent to the point at which such effluent is discharged.

For the purposes of this subsection the phrase "the discharge of any pollutant into marine waters" refers to a discharge into deep waters of the territorial sea or the waters of the contiguous zone,

or into saline estuarine waters where there is strong tidal movement or other hydrological and geological characteristics which the Administrator determines necessary to allow compliance with paragraph (2) of this subsection, and section 101(a)(2) of this Act. For the purposes of paragraph (9), "primary or equivalent treatment" means treatment by screening, sedimentation, and skimming adequate to remove at least 30 percent of the biological oxygen demanding material and of the suspended solids in the treatment works influent, and disinfection, where appropriate. A municipality which applies secondary treatment shall be eligible to receive a permit under this subsection which modifies the requirements of subsection (b)(1)(B) of this section with respect to the discharge of any pollutant from any treatment works owned by such municipality into marine waters. No permit issued under this subsection shall authorize the discharge of sewage sludge into marine waters. In order for a permit to be issued under this subsection for the discharge of a pollutant into marine waters, such marine waters must exhibit characteristics assuring that water providing dilution does not contain significant amounts of previously discharged effluent from such treatment works.

No permit issued under this subsection shall authorize the discharge of any pollutant into saline estuarine waters which at the time of application do not support a balanced, indigenous population of shellfish, fish, and wildlife, or allow recreation in and on the waters or which exhibit ambient water quality below applicable water quality standards adopted for the protection of public water supplies, shellfish, fish, and wildlife or recreational activities or such other standards necessary to assure support and protection of such uses. The prohibition contained in the preceding sentence shall apply without regard to the presence or absence of a causal relationship between such characteristics and the applicant's current or proposed discharge. Notwithstanding any other provisions of this subsection, no permit may be issued under this subsection for discharge of a pollutant into the New York Bight Apex consisting of the ocean waters of the Atlantic Ocean westward of 73 degrees 30 minutes west longitude and northward of 40 degrees 10 minutes north latitude.

EPA regulations implementing section 301(h) provide that a 301(h) modified NPDES permit may not be issued in violation of 40 CFR 125.59(b), which requires among other things, compliance with the provisions of the Coastal Zone Management Act (16 U.S.C. 1451 et seq.), the Endangered Species Act (16 U.S.C. 1531 et seq.), the Marine Protection, Research, and Sanctuaries Act (16 U.S.C. 1431 et seq.), and all other applicable provisions of State or Federal law or Executive Order. In the discussion which follows, the data submitted by the applicant are analyzed in the context of the statutory and regulatory criteria.

SUMMARY OF FINDINGS

Based upon review of the data, references, and empirical evidence furnished in the 2003 re-application, and associated monitoring reports, EPA Region 9 makes the following findings with regard to compliance with the statutory and regulatory criteria:

1. The applicant's proposed discharge will comply with the California Ocean Plan water quality standards for suspended solids, dissolved oxygen, and pH. [Section 301(h)(1), 40 CFR 125.61].

2. The applicant's proposed discharge will not adversely impact public water supplies or interfere with the protection and propagation of a balanced, indigenous population of fish, shellfish, and wildlife, and will allow recreational activities in and on the water. [Section 301(h)(2), 40 CFR 125.62].

3. The existing monitoring program was last revised in 1998 and may be modified by EPA and the Central Coast Regional Water Quality Control Board during permit reissuance to better evaluate the effects of the discharge. [Section 301(h)(3), 40 CFR 125.63].

4. The applicant's proposed discharge will not result in any additional treatment requirements on any other point or nonpoint source. [Section 301(h)(4), 40 CFR 125.64].

5. The applicant is exempt from the pretreatment requirements specified under 40 CFR 125.66(c). The draft NPDES permit implements pollution prevention requirements specified in 40 CFR 125.66(d) in lieu of the General Pretreatment Regulations specified in 40 CFR 403. This finding is conditional upon receipt of documented certification from the applicant that there are no known sources of toxic pollutants or pesticides. [Section 301(h)(5), 40 CFR 125.66 and 125.68].

6. The applicant is a small discharger and exempt from the urban area pretreatment requirement. [Section 301(h)(6), 40 CFR 125.65].

7. The requirement for a nonindustrial source control program is being met through a Pollution Prevention Program (as specified in the draft NPDES permit) which implements public education and waste minimization/source reduction programs to limit entrance of toxic pollutants and pesticides into the treatment plant. [Section 301(h)(7), 40 CFR 125.66].

8. There will be no substantially increased discharge from the point source of the pollutants to which the variance would apply (BOD and SS), above those which would be specified in the section 301(h) permit. [Section 301(h)(8), 40 CFR 125.67].

9. The applicant has demonstrated through past performance

that its treatment facilities will be removing greater than 30% of the influent five-day biochemical oxygen demand (BOD) and suspended solids. The applicant will be in compliance with all applicable Federal water quality criteria, as established under Section 304(a) of the Clean Water Act. [Section 301(h)(9), 40 CFR 125.60]

10. The Central Coast Regional Water Quality Control Board will make a determination that the prospective NPDES permit contains provisions to ensure that the applicant's discharge will meet water quality standards for the Pacific Ocean and not require imposition of additional treatment or control requirements to be applied to other dischargers. Issuance of final waste discharge requirements will constitute the State's certification and concurrence under 40 CFR 124.54.

CONCLUSION

It is concluded that the applicant's proposed discharge will comply with the requirements of section 301(h) and 40 CFR Part 125, subpart G, as stated above.

RECOMMENDATION

Recently, the applicant, Morro Bay/Cayucos Sanitation District (MBCSD) and the Central Coastal Regional Water Quality Control Board have agreed to a 9.5 year infrastructure development and implementation plan which will provide for full-secondary treatment of the facility's wastewater by June 2015. As part of this process, MBCSD is also contemplating advanced tertiary treatment and a water re-use program for part or all of the wastewater it treats. MBCSD requested that EPA continue to evaluate and consider the ocean waiver reapplication, since it would be several years before MBCSD would achieve full secondary treatment. Until the MBCSD can provide full secondary treatment to their discharge, they would need to operate under a 301(h) variance.

The EPA completed the review of the reapplication. It is recommended that the applicant be allowed to retain the 301(h) variance in accordance with the above findings, contingent upon the satisfaction of the following conditions, and that a National Pollutant Discharge Elimination System (NPDES) Permit be renewed in accordance with the applicable provisions of 40 CFR Parts 122-125. The applicant's renewal of a section 301(h) variance is contingent upon:

1. Implementation of the approved monitoring program upon issuance of the renewed 301(h) modified permit (40 CFR 125.63).

2. The California Coastal Commission determination that the applicant's proposal is consistent with the relevant State Coastal Zone Program [40 CFR 125.59(b)(3)].

3. No findings from the U.S. Fish and Wildlife Service and the National Marine Fisheries Service that operation of the discharge will adversely impact threatened or endangered species or critical habitats pursuant to the Endangered Species Act [40 CFR 125.59(b)(3)].

4. Final concurrence from the Central Coast Regional Water Quality Control Board on the approval of a section 301(h) variance [40 CFR 125.59(i)(2)].

The draft NPDES permit is to include, in addition to all applicable terms and conditions required under 40 CFR Part 122, the following terms and conditions specific to section 301(h):

i. Final effluent limitations (including flows, concentrations and loadings) in accordance with the terms and conditions of this document.

ii. Reporting requirements in accordance with 40 CFR 125.68(d). These include reporting the monitoring results at the prescribed frequency in the approved monitoring program.

DESCRIPTION OF THE TREATMENT SYSTEM

The Morro Bay-Cayucos WWTP is located in the northwest sector of the City of Morro Bay, California, approximately midway between San Francisco and Los Angeles, on the California coast (Figure 1). The area served is the City of Morro Bay and the community of Cayucos, which is located seven miles to the north. The population of the areas served by the subject facility is approximately 13,800. The treatment plant is designed for an average dry weather flow of 2.06 MGD and a peak dry-weather flow of 6.64 MGD. The treatment plant discharged an annual average of just over 1.1 and 1.0 million gallons per day for 2002 and 2003, respectively.

The two major industrial sources are represented by a fish processing plant and a water softening plant. The Cayucos Sanitary District and City of Morro Bay have a separate storm water drainage system.

The existing system is a combined primary and secondary treatment plant. The plant was originally built in 1954 and expanded in 1964. A new outfall was constructed and came into operation in 1982.

The current treatment system includes primary treatment of all influent by screening, grit removal and primary sedimentation. In addition, a major portion of the primary effluent receives secondary treatment on a daily basis to achieve 75 percent solids removal in the subsequent primary and secondary blend, as reported by the applicant (see Section II-1 of the applicant's "2003 Permit Application Supplement", Marine Research Specialists, July 2003;

hereafter referred to as "the applicant's Supplemental Report"). The secondary treatment process consists of parallel single-stage, high-rate trickling filters whose combined outflow flows to a solid contact channel, and then to a secondary sedimentation tank. The secondary effluent is combined with the primary effluent and disinfected with chlorine prior to discharge to the ocean via an outfall/difuser system.

The outfall pipe is 27 inches in diameter and terminates to a 170-foot long multi-port diffuser, located approximately 2,900 feet from shore at a depth of approximately 50 feet. The discharge point coordinates are 35 23' 12" N latitude and 120 52' 27" W longitude.

Projected Flows: Based on the applicant's report, average wet weather flows in 2002 were 1.14 MGD. These flows are projected to slightly increase (with population growth) to 1.20 MGD in 2009 (based on 5.2% growth over that time period) and to 1.23 MGD in 2014 (based on a population increase of 9.8% between 2003 and 2014).

Performance: The average annual effluent concentration for SS between 1998-2003 was 41.4 mg/L (ranged from 37.4 to 49.2 mg/L). Annual removal efficiency for SS over the same time period averaged 87% (ranged from 84 to 89%). The COP requires at least 75% removal of SS. [Note: the concentrations for suspended solids being discharged by the applicant have consistently been below the permit limits].

The annual average BOD concentration in the effluent between 1998-2003 was 53.8 mg/L (ranged 39.1 to 67.5 mg/L). The removal efficiencies during this time period ranged from 81% to 83% with an average of 82% removal. The plant has been achieving removal rates greater than 80% since 1992. [Note: the concentrations for BOD being discharged by the applicant are well below the permit limits].

Mass emissions: In terms of mass (measured in weight), suspended solids loadings have ranged from 56 to 102 million tons per year (MT/yr) between 1998-2003. Given the small projected increases in population, loadings are not likely to increase substantially. The annual mass emissions limit in the existing permit is for 199 MT/yr and, as reported, the applicant's loadings to the receiving waters have consistently been well below this limit.

There are no proposed changes to the current configuration of the treatment system or outfall in the next five years. The applicant states that "over the next five years, no downgrading of effluent quality is anticipated given the limited projected growth in population and industry in the service area." The permit limits being requested are the same as in the last permit cycle. Therefore, the renewal application is based on the current

discharge.

APPLICATION OF STATUTORY AND REGULATORY CRITERIA

1. Compliance with the California State Water Quality Standards [Section 301(h)(1), 40 CFR 125.61]

Under 40 CFR 125.61, which implements section 301(h)(1), there must be a water quality standard applicable to the pollutants for which the modification is requested and the applicant must demonstrate that the proposed modified discharge will comply with these standards. The applicant must obtain a favorable State determination that the proposed discharge will comply with applicable provisions of State law including water quality standards. The applicable water quality standards are established in the California Ocean Plan (SWRCB, 2001).

Table A (Effluent Limitations) of the 2001 California Ocean Plan provides water quality standards for 1) Grease and Oil, 2) Suspended Solids, 3) Settleable Solids, 40 Turbidity, and 5) pH. According to the COP, as a 30-day average, the discharger shall remove 75% of suspended solids from the influent stream before discharging wastewaters to the ocean, except that the effluent limitation to be met shall not be lower than 60 mg/L. The COP specifies numeric water quality standards for turbidity for monthly (75 NTU), weekly (100 NTU), and maximum at any time (225 NTU) as effluent limitations, and narrative standards for light transmittance ("Natural light shall not be significantly reduced at any point outside the initial dilution zone as the result of the discharge of waste"). In lieu of specific numeric water quality standards for BOD, however, the COP (Water Quality Objectives, Water Contact Standards) specifies that the dissolved oxygen (DO) concentration shall not at any time be depressed more than 10% from that which occurs naturally, as the result of the discharge of oxygen demanding waste materials.

The applicant has requested modified requirements for biological oxygen demand (BOD) and suspended solids (SS). The applicant must demonstrate that it meets (and will continue to meet through the end-of-permit period) all effluent limits for suspended solids and turbidity and meets ambient standards for turbidity, light transmittance, and dissolved oxygen.

A. Suspended Solids.

1. Solids Removal. The California Ocean Plan (COP) calls for at least 75% removal of suspended solids (as a 30-day average). The applicant measures the suspended solids concentrations in the influent and effluent on at least a weekly basis. The applicant has demonstrated through past performance the ability to meet the 75% removal requirement and typically achieves removal efficiencies greater than 85% for suspended solids. Monthly removal

efficiencies averaged greater than 88% between 1986 and 2003; monthly removal efficiencies averaged 86% during the last permit cycle (1998-2003). The reissued NPDES permit will continue to require compliance with the 75% removal requirement of the COP.

The applicant reports that between 1993-2002 the subject facility failed to meet the required 30-day average of 75% removal of suspended solids from the influent stream before discharge for the following three months: January 1995, April 1999, and December 2002. The first two events (January 1995 and April 1999) were reportedly related to low concentrations of TSS in the influent due to high inflow into the collection system following significant precipitation events. The third event (December 2002), on the other hand, resulted from a malfunction in the secondary clarifier at the facility which resulted in a 74.8% 30-day average removal for that month, which is 0.2 % below the 75% removal requirement.

2. Turbidity. The COP establishes the following effluent limits for turbidity.

	30-day Ave.	Weekly Ave.	Daily Max.
Turbidity	75 NTU	100 NTU	225 NTU

These turbidity standards are established as permit limits in the existing permit. Effluent turbidity is measured by the applicant on a daily basis. The applicant has shown through past performance the ability to meet these limits. For example, monthly averages of turbidity concentrations ranged from 34 to 48 NTU for the last permit period (1998-2003). To ensure continued compliance with the COP, these effluent limits for turbidity will be retained in the reissued NPDES permit.

3. Light Transmittance. The COP states that "natural light shall not be significantly reduced at any point outside the zone of initial dilution as the result of the discharge."

Increased suspended solids concentrations associated with municipal discharges can cause a decrease in light penetration in the water column. A worst-case estimate of the increase in suspended solids concentration following initial dilution for this particular facility can be obtained by dividing the maximum allowable concentration in the permit (105 mg/L) by the critical initial dilution of 133 (see Section III.B.4 in the applicant's Supplemental Report, page III-7, for further discussion). Using this method, and by assuming an ambient suspended solids concentration of 0 mg/L, EPA estimated a suspended solids concentration of 0.79 mg/L in the receiving waters immediately following initial dilution (Tetra Tech, 1992).

Transmissivity profiles collected by the applicant over the last permit period indicate that rarely is natural light transmittance

impeded by effluent-related particulate (see Section III.B.6, page III-14, of the applicant's Supplemental Report for further discussion). Only one measure from 24 sampling efforts during this period indicate that particulate from the effluent may have inhibited the occurrence of natural light. This measure, taken on October 11, 1999, was collected from the seafloor area approximately 30 ft. from the outfall diffuser at a depth of 45 ft. However, the applicant reports that this transmissivity measure represents an approximate 6.9% decrease in natural light conditions relative to ambient measures taken at the same time.

The COP's narrative standard for light transmittance relies on the extent of variability between samples taken on the same day within the sampling area. If the results from a sample or samples are significantly different (using a 95% confidence interval) from other similar measures, in particular measures taken outside of the zone of initial dilution and the discharge area in general, the COP considers such results as indications of non-compliance with state water quality standards for light transmittance. Overall, the applicant's discharge has met the state's water quality standards for light transmittance save the one measure mentioned above. The fact that this measure only represented a 6.9% decrease in natural light (relative to other transmissivity measures taken that day), at a depth for which natural light in temperate marine waters is hardly a biological factor, is not worrisome to EPA given the overall results of the applicant's monitoring of the discharge and its impact to the receiving water environment.

4. Summary of Suspended Solids. EPA finds that the three instances of failure to meet 30-day average removal standards for suspended solids, and the one instance in which light transmittance was depressed 6.9% below natural light conditions, does not merit a denial of the current application; given the applicant's overall compliance with the TSS, Turbidity, and COP requirements for Light Transmittance over the last decade. The applicant has, without exception, met effluent turbidity limits over the last decade.

Based on the information reviewed, EPA believes that suspended solids concentrations around the discharge has not, and will not, significantly reduce light transmittance outside the zone of initial dilution. The State may comment on these conclusions during the 401 certification and concurrence on the waiver. In general, EPA believes that the applicant has successfully demonstrated (through past performance) the ability to meet effluent limitations for suspended solids and turbidity established by the COP. No changes to the current limits for suspended solids and turbidity will be included in the reissued NPDES permit. This will ensure continued compliance for these parameters by the applicant. Based on our review of the offshore monitoring data, in particular the biological infaunal information, EPA concludes that these limits are sufficient to ensure continued compliance with the ambient water quality standard for transmissivity.

B. Dissolved Oxygen.

The COP does not have an effluent limit for BOD. The COP provides that the "dissolved oxygen concentration shall not at any time be depressed more than 10 percent from that which occurs naturally, as the result of the discharge of oxygen-demanding waste materials."

The potential for outfall-related DO depressions was evaluated with respect to 1) initial dilution, and 2) BOD exertion in the farfield. The procedures for making these calculations are detailed in EPA's 301(h) Technical Support Document (EPA, 1982, 1994).

1. Dissolved Oxygen Depression Upon Initial Dilution. The applicant calculated a DO concentration following critical initial dilution of 6.2 mg/L, assuming an effluent concentration of 0 mg/L and an "immediate dissolved oxygen demand" (IDOD) of 3 mg/L. The applicant used a minimum initial dilution value of 133:1 which was originally provided by EPA (Tetra Tech, 1992). DO demands following initial dilution, therefore, would result in only minor depression (about 1%) of DO during periods of maximum stratification. Thus, the DO depression after initial dilution is considered to be negligible.

2. Dissolved Oxygen Depression Due to Biochemical Oxygen Demand in the Farfield. Subsequent to initial dilution, dissolved oxygen in the water column is consumed by the BOD in the waste field. This can be estimated using a simplified farfield oxygen depletion model for coastal waters as described in EPA, 1992. EPA predicted a maximum farfield depression of 0.045 mg/L based on worst-case assumptions (i.e., BOD of 180 mg/L, initial dilution of 133). The predicted farfield DO depression represents a 0.5% depression from ambient concentrations at trapping depth, and therefore, DO depression due to BOD exertion in the farfield is also considered to be negligible.

3. Conclusions on Dissolved Oxygen. The overall effect of the discharge on ambient DO concentrations is negligible and well below the 10% standard in the COP. There is no evidence from the applicant's monitoring efforts, be it from sediment chemistry, receiving water measures, and infaunal community structure, which indicates that the applicant's wastewater discharge is causing the depression of ambient dissolved oxygen levels in as much to cause measurable impact to the receiving water and its biological inhabitants. EPA concludes that the discharge currently meets (and will continue to meet through the end of the proposed permit period) COP's narrative standard for dissolved oxygen. The State may comment on these conclusions during the 401 certification and concurrence on the waiver.

C. pH Compliance.

The applicant has not requested a variance for pH. The COP states that "pH shall not be changed more than 0.2 units from that which occurs naturally." A review of the pH data provided by the applicant (for both effluent and receiving water) indicates that State standards for pH are being attained. The permit limits established in the permit are designed to meet the COP standard.

D. Conclusions on Applicable Water Quality Standards.

Based on the information provided by the applicant and a review of past performance, the discharge will be operated in a manner which ensures compliance with the State water quality standards relevant to suspended solids, BOD, and pH. This includes the effluent limits specified in the COP for suspended solids (75% removal), turbidity (75 NTU) and pH (6.0 to 9.0) and the ambient standards for dissolved oxygen and light transmittance. The reissued NPDES permit will contain effluent limitations for suspended solids, turbidity, BOD and pH to ensure continued compliance.

2. Protection and propagation of a balanced indigenous population of shellfish, fish, and wildlife, and allows recreational activities [Section 301(h)(2), 40 CFR 125.62].

A. Physical Characteristics of the Discharge.

1. Outfall/Diffuser and Initial Dilution. 40 CFR 125.62(a)(1) provides that the proposed outfall and diffuser must be located and designed to provide adequate initial dilution, dispersion, and transport of wastewater to meet all applicable water quality standards at and beyond the boundary of the zone of initial dilution. This evaluation is based on conditions during periods of maximum stratification; and during other periods when discharge characteristics, water quality, biological seasons, or oceanographic conditions indicate more critical situations may exist.

Outfall/diffuser design. The existing outfall was constructed in 1982 with an upgraded 27-inch diameter steel pipe lined and coated with cement mortar. The outfall extends 4,756 feet from the wastewater facility to a water depth of 50 feet where it terminates in a 170-foot multi-port linear diffuser. Figure 2 shows the general location for the outfall, and offshore sampling region, relative to the wastewater treatment facility.

The linear diffuser section consists of 34 ports, each 2-inch diameter. The ports are spaced approximately 50 feet apart on alternating sides of the pipe. Currently, flow through the treatment plant requires the use of 28 of the available 34 ports.

Initial Dilution. The COP states that "waste effluents shall be discharged in a manner which provides sufficient initial dilution to minimize the concentrations of substances not removed in the

treatment." In the COP, minimum initial dilution is defined as the "lowest average initial dilution within any single month of the year." Dilution estimates are "based on observed waste flow characteristics, observed receiving water density structure and the assumption that no currents (of sufficient strength to influence the initial dilution process) flow across the discharge structure."

In 1992, EPA calculated a critical initial dilution of 133:1 for the outfall using the UMERGE model. The UMERGE model was run using a maximum flow of 6.64 MGD and zero currents, and a trapping depth of 6.37 m (associated with critical density profile). These worst-case assumptions result in a conservative estimate of initial dilution.

The initial dilution of 133:1 was used by Region IX in the re-issuance of MBCSD's permit in 1993 and 1999 for calculations of effluent limits, and is used similarly in the current review for assessing compliance with the COP standards, Federal Marine Water Quality Criteria, and the nine 301(h) criteria. No significant increases or changes related to the applicant's discharge (i.e., flow, capacity, treatment capabilities, etc.) have come to light, or have been proposed, during this review. Therefore, the application of the initial dilution of 133:1 in this case is both consistent and appropriate.

2. EPA Water Quality Criteria and State Water Quality Standards. State standards for a variety of toxic materials are established in the COP. The receiving water standards for the protection of marine aquatic life and the protection of human health (noncarcinogens and carcinogens) are listed in Table B of the COP. In addition, it must be shown that the discharge will not result in exceedances of EPA water quality criteria for those pollutants where there is no corresponding state water quality standard.

EPA reviewed the results of effluent monitoring which occurred over the last two permit periods (1993-1998 and 1998-2003) or decade. The data reviewed, which was provided by the applicant, was collected as part of the NPDES monitoring requirements. Of the approximate 780 effluent samples collected and analyzed for Table B constituents over the last decade, results show that all but three samples complied with receiving-water standards. The pollutant concentrations which exceeded effluent limits (or narrative standards) were for: 1) gross-Beta radioactivity (January 1994), 2) DDT (July 1998), and 3) Dioxin (July 2002). Aside from these single instances, none of the other Table B pollutants measured from the effluent exceeded water quality standards during the last decade, and thus no pattern of concern has emerged or been brought to light. Given the over-riding trend of compliance for Table B constituents over the last decade, EPA expects that the subject discharge will likely continue to comply with Table B standards during the up-coming permit period.

3. Dilution Water Recirculation. Under section 303(e) of the WQA, before a 301(h) permit may be issued for discharge of a pollutant into marine water, such marine waters must exhibit characteristics assuring that the water providing dilution does not contain significant amounts of previously discharged effluent from the treatment works.

The applicant has claimed that under normal circumstances little, if any, previously discharged effluent would recirculate through the ZID and be re-entrained in the plume. The rationale for this is predicated on flow measurements taken by the discharger and the turbulent, open-ocean conditions in which the discharge occurs. The applicant submits that the only potential mechanism for recirculation would be under unusual tidally induced conditions, however given a 6.5-hour semidiurnal tidal cycle, wastewater contaminants normally disperse farfield before tide changes making re-entrainment highly unlikely.

EPA accepts this reasoning. In previous evaluations with large dischargers in Southern California, EPA found that the net effect of re-entrainment on reducing initial dilution in the open coastal environment is small (i.e., less than 10%). Such a reduction in initial dilution would not alter EPA's conclusions regarding the applicant's ability to comply with State standards or EPA water quality criteria.

4. Transport and Dispersion of Wastewater and Particulates. Accumulation of suspended (settleable) solids in and beyond the vicinity of the discharge can have adverse effects on biological communities. Following initial dilution, the diluted wastewater and particulate must be transported and dispersed so that water use areas and areas of biological sensitivity are not adversely affected [40 CFR 125.62(a)(2)].

In addition, the COP has narrative standards related to the deposition of outfall-related solids, the accumulation of organic material in sediments, and the concentrations of contaminants in sediments as these relate to biological communities around the outfall.

Solids Deposition. The COP states that "The rate of deposition of inert solids and the characteristics of inert solids in ocean sediments shall not be changed such that benthic communities are degraded."

Sediment, biological data (see Section 2C), and annual outfall inspections (diver surveys) conducted by the discharger indicate that, over the last decade, there is no evidence of significant accumulation of effluent-related solids on the benthos in the area of the outfall. In addition, analyses of sediment samples collected from benthic monitoring stations (see Figure 3 for the location of the benthic sampling stations relative to the outfall

location) over the last 15 years show that there is no evidence of buildup of fine particulate matter (silts and clay materials) in the vicinity of the outfall. Results show that the surrounding benthic environment is primarily dominated by medium grain-sized sands (see Section III.A.4, pages III-5 and III-6, of the applicant's Supplemental Report for further discussion). In EPA's view, the lack of effluent-related solids accumulation in the vicinity of the outfall is primarily related to two factors: 1) the applicant's SS removal rate is consistently above the 75% removal requirement, and 2) the discharge environment itself is an extremely well-flushed and dynamic open-ocean setting. Because the applicant is not projecting any changes to their discharge, relative to previous permit periods, EPA believes that the re-issuance of the applicant's permit will not lead to benthic impacts from solids build-up during the next permit cycle.

Deposition and Accumulation of Organic Matter. The COP states that "The concentration of organic materials in marine sediments shall not be increased to levels that would degrade marine life."

Results from the applicant's benthic monitoring efforts, over the last 15 years, suggest that the Morro Bay discharge does not cause significant organic deposition and accumulation in the vicinity of the outfall, which would negatively impact the occurrence and health of nearby benthic communities. In this case, benthic communities consist of those marine organisms (such as polychaete and tube worms, snails and bivalves, various crustaceans such as amphipods, mysids and crabs, and fishes such as blennies, various flatfish and rockfish species) which live in the vicinity of the outfall and are sensitive to unnatural accumulations of organic materials on and in marine sediments.

For this review, EPA evaluated the last 10-years worth of sediment data collected by MBCSD to determine if there were any patterns of organic accumulation in the sediments in the vicinity of the outfall. High concentrations of sediment BOD, total volatile solids (TVS) or total Kjeldahl nitrogen (TKN) around the outfall area would be indicative of an outfall related effect. Such spatial patterns in the concentrations for these constituents are not evident from the applicant's monitoring results. In fact, patterns of concentrations for these constituents did not show any significant differences between the sediment areas adjacent to the outfall diffuser and the sediments collected/analyzed at the applicant's reference station (Station 1; see Fig. 3). Based on these results, EPA concludes that organic material is not accumulating around the outfall and that organic concentrations in sediments around the MBCSD outfall are not degrading marine life.

Contaminant Concentrations in Sediments. Contaminants associated with effluent wastewater have the potential to accumulate in sediments. The COP states that "The concentration of toxics substances in marine sediments shall not be increased to levels

that would degrade marine life."

Overall, organic pollutants such as pesticides, polychlorinated pesticides, polycyclic aromatic hydrocarbons have not been detected in sediments associated with the outfall. On the other hand, metal contaminants (arsenic, chromium, copper, lead, nickel, zinc) have been consistently measured at detectable concentrations from sediments obtained by the applicant's benthic monitoring program. Benthic sediment data from 1986-2002 (collected by the applicant) were reviewed by EPA to determine if any of the metal contaminants occur in a pattern which would indicate that the source of the benthic metals is originating from the outfall itself. Results from this review indicate no discernable patterns (temporal or spatial) for metal contaminates in local benthic sediments that would indicate the outfall as a contributing source.

The concentrations of arsenic, chromium, copper, lead, and zinc were all below the NOAA toxicological "Effects-Range Low" (ERL) benchmark, for which contaminant concentrations are unlikely to cause adverse biological effects (Long and Morgan, 1991; Long *et al.*, 1995). Nickel concentrations, on the other hand, were consistently above the associated ERL, but below the NOAA Effects-Range Median (ERM) benchmark which is the concentration above which biological effects are thought to be likely. It is unlikely that the nickel concentrations in the local benthic sediments are related to the outfall since no outfall patterns are discernable and nickel concentrations measured from the effluent samples were consistently not detectable. In addition, nickel is reportedly a naturally occurring element in marine benthic sediments from this part of the California coastal region (Steinhauer et *al.*, 1994).

EPA finds no evidence of any outfall-related patterns with regard to the occurrence of contaminants in benthic sediments in the vicinity of the outfall, and that contaminant concentrations in the vicinity of the outfall are causing adverse degradation to local marine life. This is based on the applicant's marine monitoring data collected over the last two permit cycles (i.e., decade).

B. Impact of Discharge on Public Water Supplies. The applicant's discharge, alone or in combination with other pollutant sources, must allow for the attainment or maintenance of water quality which assures protection of public water supplies and must not interfere with the use of planned or existing public water supplies.

The City of Morro Bay has a desalinization plant located near the MBCSD wastewater treatment plant. The intake structure for this facility draws brackish water from saltwater wells located onshore and 16 km from the MBCSD outfall. Given the distance between the wells and the diffuser ports, and the physical (land) and oceanographic barriers between the two, it is unlikely that the outfall would have any adverse affect on the quality of water at the desalinization intake wells should the facility go into

operation.

C. Biological Impact of the Discharge. The proposed modified discharge must allow for attainment or maintenance of water quality to protect a balance indigenous population (BIP) of shellfish, fish, and wildlife. The applicant must demonstrate that a BIP of shellfish, fish, and wildlife will exist in all areas beyond the zone of initial dilution (ZID) that might be affected by the current and proposed modified discharge.

A BIP is generally defined in the section 301(h) regulations [40 CFR 125.58(f)] as an *ecological community* which exhibits characteristics similar to those of nearby, healthy communities existing under comparable but unpolluted environmental conditions. Consequently, for the purpose of 301(h), the term *population* should be interpreted to mean biological communities and the terms *shellfish, fish and wildlife* should be interpreted to include any or all biological communities that might be adversely affected by the discharge.

The COP states that "Marine communities, including vertebrate, invertebrate, and plant species shall not be degraded."

The applicant has provided a substantial and in depth analysis of the infaunal community data collected from the benthic environment in association with applicant's discharge monitoring program over the last three permit cycles. This analysis is presented in Section III.D of the applicant's Supplemental Report, pages III-50 through III-63. EPA has reviewed this analysis and finds it to be scientifically sound. A variety of statistical methodologies were applied to the infaunal data by the applicant which, ultimately, resulted in the same conclusion: infaunal communities in the vicinity of the discharge are not being degraded.

1. Benthic community structure. Benthic infaunal data were evaluated relative to (1) number of species per unit area, (2) numbers of individuals per unit area, (3) measures of community structure such as diversity, evenness and dominance, and (4) species composition. As with sediment chemistry, the data from 1986 to 2002 were reviewed to determine if there were any outfall-related trends related to benthic community structure. Infaunal data from the ZID boundary stations (Stations 4 and 5), nearfield stations (Stations 3, 6, 8 and 9), and farfield stations (Stations 2 and 7) were also evaluated relative to the information collected at the designated reference station (Station 1); see Figure 4 for relative locations of the benthic monitoring stations and the ZID. Some of the monitoring locations (i.e., stations) for the existing permit (issued in 1998) differ from those associated with the permit issued in 1993. Therefore, direct comparisons between the two permit periods (1993-1998 and 1998-2003) regarding local benthic community structure is not possible. However, general trends related to community structure in the discharge area over

the entire period of data collection (15 years) can be assessed and are discussed below.

Species Richness. A decrease in the number of benthic species near an outfall relative to a reference station would generally indicate an outfall-related effect. The monitoring data collected by the applicant over the last two permit cycles indicates that there is no discernable outfall-related trend relative to the number of benthic species at each of the monitoring stations and the proximity of the stations to the outfall. The data indicates that spatial differences between stations are small for each sampling event and temporal differences between sampling events (i.e., seasons and/or years) proved variable. All stations tend to track this temporal variability as a group, indicating that such patterns are in response to natural variability in environmental conditions (such as periods of up-welling, El Nino, etc.). Moreover, there are no temporal trends in the data that indicate an increasingly degraded benthic environment in the entire sampling area, whether it be at, near or away from the outfall location.

Abundance. Empirical studies have shown that species abundances in marine benthic communities generally increase in response to organic enrichment from anthropogenic sources. Such enrichment is not generally considered adverse unless it is accompanied by a reduction in the number of total species (relative to adjacent, unperturbed areas) and the dominance of a few, opportunistic species. High abundances of a few species associated with reduced number of total expected species would be considered an indication of an adverse outfall-related effect. Where organic enrichment is extremely high, and results in anoxic conditions, abundances of all infaunal species would show a distinct decline or absence. Such a pattern in species abundances would be indicative of severely degraded conditions.

While total species abundance has proved variable over time, the differences between stations at any given time (i.e., sampling event) have generally been small. As with species richness, species abundances at each station have been generally similar between stations for each sampling event. The applicant's monitoring data does not indicate that species abundances at the ZID, nearfield, or farfield stations differ significantly. Such a pattern is indicative of a pollutant-free environment in the vicinity of the applicant's outfall.

Other Measures of Community Structure. Diversity, evenness, and dominance are three common measures used to evaluate changes in the relative abundance of species.

Species diversity (H') combines species richness and the relative abundances of species. Low diversity near the outfall relative to the reference station would indicate an outfall related effect. Although diversity has been variable over time, there are no

spatial or temporal trends which would indicate an outfall-related effect. Species diversity values at the ZID, nearfield, and farfield stations are similar to those found at the reference station.

Evenness is a measure of diversity which emphasizes regularity in the relative abundance of species in a sample. In theory, a stressed or impacted environment would have a more uneven or irregular distribution of species relative to areas not perturbed. The applicant's monitoring data indicates that there is no pattern of decreased evenness in the abundance of species monitored at the study area over the last two permit cycles.

Dominance is in essence the opposite of evenness. One simple measure of dominance is the number of species representing 75% of the total abundance in a given sample. Increased dominance by opportunistic or pollution tolerant species (resulting in fewer species comprising 75% of the sample abundance) would be indicative of an outfall effect. Of the benthic organisms measured in relation to the subject discharge, the Pacific Sand Dollar (*Dendraster exentricus*) has shown to be a variable and sometimes dominant species in the sampling area over the seventeen years of monitoring. In fact, sand dollars have often comprised approximately 75% of the taxa identified from the benthic samples analyzed per sampling event. However, sand dollars are known to be transient species, have strong recruitment episodes, and respond to environmental conditions such as upwelling events and El Nino events. Moreover, the occurrence of sand dollars, although dominant at times, tended to occur equally at all stations sampled for each sampling event. Thus no pattern of species dominance showed a strong spatial association relative to the location of the outfall. This is not only true for the Pacific Sand Dollar but for all other infaunal species sampled from the monitoring area.

Species composition. Perhaps the most direct measure of infaunal community health is the abundance of individual species. Certain benthic species tend to be more sensitive to outfall effects while others are more tolerant. Patterns in the abundances of sensitive species verses tolerant species can be used to infer outfall-related effects.

Over the entire seventeen years of monitoring, species composition has proved variable not only between stations but also between sampling events. This is likely reflective of the way in which benthic samples are collected (Van-veen grabs), the variable number and locations for which samples are collected per sampling event, and the temporal environmental conditions which influence the seasonal and inter-annual occurrences of infaunal species in the sampling area. Having said this, however, it is possible to discern general spatial and temporal patterns of species occurrence and abundance from the applicant's monitoring data. Such patterns can provide an insight to the overall health, or temporal and/or

spatial degradation, of the discharge environment. For example, and as mentioned above, some infaunal species are more sensitive to contaminated sediments than others, and changes in the relative occurrence and abundance of such species, both over space and time, can be an indication of whether sediments in and around the outfall area are contaminated or polluted.

The applicant's monitoring data suggests that the types and abundances of organisms that inhabit the sediment around the outfall area are indigenous and are also represented by those species which typically live in clean or non-polluted sediments. Also, the applicant's monitoring data shows that the types and relative abundances of organisms occurring near the outfall are similar to those occurring farther away from the outfall. That is, there is no spatial gradient in the general occurrence and abundance of sediment infauna radiating outward from the outfall area. Finally, the applicant's monitoring data shows that there is no significant change in the types and abundances of infauna around the outfall area over the course of the monitoring period (15 plus years). If the applicant's effluent was causing pollution to build-up in the sediments around the outfall, clear spatial and temporal patterns in the types, occurrences, and abundances of infaunal species sampled from the monitoring area would reflect this. Such is not the case.

2. Fish. Commercial and recreational fish species are present in the area of the outfall and likely to be exposed to some degree, to the wastewater being discharged. Because the MBCSD facility qualifies as a small discharger with a limited potential for adverse biological impact, sampling of fish assemblages occurring in the vicinity of the discharge was not required as part of the applicant's monitoring program. Therefore, no biological data on local fish assemblage was provided by the applicant for permit renewal purposes.

Given the relatively small volume of discharge and small area of potential impact, EPA finds that potential for impacts to local fish populations to be unlikely. This is supported by the low concentrations and/or absence of toxics in the effluent which ensure that water quality standards are being met and the lack of impact to the benthic communities.

D. Impact of Discharge on Recreational Activities. Under section 125.62(d), the applicant's proposed modified discharge must allow for the attainment or maintenance of water quality which allows for recreational activities at and beyond the zone of initial dilution, including, without limitation, swimming, diving, boating, fishing, picnicking and sports activities along shorelines and beaches. In addition, there must be no Federal, State or local restrictions on recreational activities within the vicinity of the applicant's outfall unless such restrictions are routinely imposed around sewage outfalls regardless of the level of treatment.

The COP applies the following bacterial standards for shoreline and body contact sports areas:

> Total Coliform bacteria: Samples of water from each sampling station shall have a density of total coliform organisms less than 1,000 per 100 ml (10 per ml); provided that not more than 20 percent of the samples at any sampling station, in any 30-day period, may exceed 1,000 per 100 ml (10 per ml), and provided further that no single sample when verified by a repeat sample taken within 48 hours shall exceed 10,000 per 100 ml (100 per ml).
>
> Fecal Coliform bacteria: The fecal coliform density based on a minimum of not less than five samples for any 30-day period, shall not exceed a geometric mean of 200 per 100 ml nor shall more than 10 percent of the total samples during any 60-day period exceed 400 per 100 ml.

In shellfish harvest areas, total coliform shall not exceed a median value of 70 MPN per 100 ml and not more than 10% of the samples shall exceed 230 MPN per 100 ml.

The NPDES permit requires that total coliform concentrations measured from the effluent before discharge shall not exceed a 30-day median of 23 MPN per 100 ml and a maximum of 2400 MPN. The applicant chlorinates the effluent prior to discharge. Total coliform concentrations in the effluent are monitored five days a week. EPA's review of the applicant's data indicates that coliform densities in effluent samples are consistently low with the exception of a few occasions (specific dates in September and October 1996, August 1998, and February 1999) when the 30-day median extended above the permitted limit. With regard to these episodes, specific malfunctions in facility operations have been linked to the causes of these exceedances.

The applicant does not currently monitor total and fecal coliform in the offshore (i.e., receiving) waters. Instead, the applicant monitors the shoreline along Atascadero State Beach (located south and east of the outfall location) for both total coliforms and fecal coliforms as part of their NPDES permit. Eight surfzone sampling stations are positioned at gradient distances from Station C, which is the closest onshore station to the offshore location of the discharge; see Figure 5 for the general locations of the surfzone monitoring stations. Samples are collected weekly at each station during summer months (May through October), and at least monthly during the winter months (November through April). Between 1998-2002 the applicant reports that of 200 samples collected there have been a 17 surfzone samples which have exceeded COP's most stringent standard for bacterial limits (70 per 100 ml for shellfish harvesting). Of these 17, only one sample taken concomitantly from the effluent exceeded this COP limit, indicating that the other 16 samples were likely a result of sources other

than the discharge.

In addition to the applicant's monitoring of the surfzone stations, the San Luis Obispo County Health Department has been monitoring shoreline stations since 1999 in the vicinity of the applicant's discharge along the southern portion of Atascadero State Beach, north of Morro Rock. To date, the County has reported no beach closures at Atascadero Beach due to unacceptable levels of bacterial contamination.

The overall results of the shoreline fecal coliform monitoring effort for the last permit period indicates that shoreline contamination by way of the applicant's discharge is not of reasonable concern. This is likely due to the fact that the applicant disinfects its effluent prior to discharge. In contrast, fecal coliform concentrations from non-point sources, such as Morro Creek, likely contribute more significantly to shoreline bacterial contamination.

There are no Federal, State or locally imposed restrictions on recreational activities in the vicinity of the applicant's outfall.

E. Conclusions on Balanced Indigenous Population. EPA concludes that a balanced indigenous population is being maintained in the vicinity of the outfall and recreational activities are protected. This conclusion is based on the following considerations:

1. The discharge meets all COP standards and EPA water quality criteria. EPA models indicate that the outfall design and location result in a high degree of initial dilution. The applicant's discharge meets effluent limitations specified in the existing permit.

2. No substantial increase in solids deposition near the outfall is evident by the monitoring data, and there is no indication of organic accumulation in the vicinity of the outfall. Thus, benthic infaunal communities in the vicinity of the outfall are not degraded by the discharge. The health of the benthic community is compelling evidence that the applicant's discharge is not degrading marine life in the vicinity of the discharge.

3. Benthic infaunal communities in the vicinity of the outfall appear not to be degraded by sediment contamination. Organic pollutants and metal concentrations in sediments are not present at levels that would be considered potentially toxic to marine organisms.

4. Benthic monitoring data for infaunal communities does not indicate or suggest outfall-related perturbations based on species composition, number of species, abundance, diversity, evenness, or species dominance. Although not specifically sampled, local fish populations are not likely to be impacted by the quality and

quantity of effluent being discharged.

5. Effluent coliform data indicates that, in general, the treatment works is discharging effluent which is not causing unacceptable levels of total and fecal coliform bacteria either in the receiving waters and along the nearby shoreline. This is primarily due to the requirement for the treatment works to disinfect its effluent prior to discharge. Periodic bacterial monitoring along the adjacent beaches indicate that, overall, water quality standards are being met.

6. Effluent monitoring results, for the most part, indicate that unacceptable levels of toxic constituents (metals, pesticides, organic pollutants, etc.) are not found in the applicant's effluent prior to discharge; see Section III-H of the applicant's Supplemental Report for a complete discussion. In fact, relative to the federal and state applicable water quality standards for the subject discharge, no significant and/or consistent occurrence of toxic constituents have been measured from the applicant's effluent during the last two permit cycles (i.e., 10 years). Likewise, no significant and/or consistent occurrence of toxic constituents have been measured from the applicant's benthic sediments and biosolids monitoring efforts over the last ten years.

Since the subject application is not proposing modifications to the current, authorized discharge, continued maintenance of the BIP through the next permit cycle is likely assured. Current NPDES permit limits will be maintained, or new ones established where applicable, to ensure future and continued compliance with state standards and to protect marine resources.

3. Establishment of a Monitoring Program [Section 301(h)(3), 40 CFR 125.63].

Under 40 CFR 125.63, which implements section 301(h), the applicant must have a monitoring program designed to evaluate the impact of the modified discharge on the marine biota, demonstrate compliance with applicable water quality standards, measure toxic substances in the discharge, and have the capability to implement the program upon issuance of a 301(h) modified NPDES permit. The frequency and extent of the monitoring program are to be determined by taking into consideration the applicant's rate of discharge, quantities of toxic pollutants discharged, and potentially significant impacts on receiving water, marine biota, and designated water uses.

The applicant has proposed a number of changes to the current monitoring program; see Section III.F for complete discussion of these proposed changes. No significant changes to the current monitoring program, such as the complete elimination of the current infaunal community assessment, has been proposed by the applicant. Rather, the applicant is proposing to adjust some field methodologies and sampling locations, and also to reduce some

sampling in association with receiving water, sediment, and surf zone monitoring. EPA will discuss these proposed changes with the state, in coordination with the applicant, and will adopt changes only if the integrity of the current monitoring program is not compromised, and the public is assured that reasonable measures remain in place to adequately gage the overall health of the discharge environment.

The final and approved monitoring plan will be developed by the state and EPA and will be incorporated into the final NPDES permit. In accordance with 40 CFR 125.63(a)(2), the applicant's monitoring programs are subject to revision as may be required by EPA.

4. Effect of Modified Discharge on Other Point and Nonpoint Sources [Section 301(h)(4), 40 CFR 125.64].

Under 40 CFR 125.64, which implements section 301(h)(4), the applicant's proposed modified discharge must not result in the imposition of additional treatment requirements on any other point or nonpoint source. The MBCSD outfall is isolated from any intake pipe which could potentially be affected by the discharge. Given the small amount of discharge (less that 1.2 MGD), and the significant dilution of the wastewater provided, by the time it approaches any pipe, there will be no imposition to any point or nonpoint source for additional treatment requirements.

The State will provide its views on this issue in the certification required pursuant to 40 CFR 125.64(b).

5. Toxics Control Program [Section 301(h)(5), 40 CFR 125.66(a)-(c)].

The toxics control program is designed to identify and ensure control of toxic pollutants and pesticides discharged to the POTW. The Section 301(h) toxics control regulations require both industrial and nonindustrial source control programs. These regulations provide certain exemptions for small dischargers. Small dischargers are defined in the 301(h) regulations as having average dry weather flows less than 5.0 MGD and a service population less than 50,000. Morro Bay is a small discharge designed for an average dry weather flow of 2.06 MGD and a service population of approximately 13,800.

A. Chemical Analysis. Under 40 CFR 125.66(a), applicants are required to submit chemical analyses of its effluent discharge for specific toxic pollutants and pesticides. Small section 301(h) applicants, which certify that there are no known or suspected sources of toxic pollutants or pesticides and document the certification with an industrial user survey, are exempt from the chemical analyses specified under 125.66(a). EPA reviewed effluent data submitted by the applicant and found that concentrations of toxics and pesticides in the effluent have remained insignificant

throughout the last ten years of sampling.

B. Toxic Pollutant Source Identification. Under 40 CFR 125.66(b), the applicant must submit an analysis of the sources of toxic pollutants identified in section 125.66(a) and to the extent practicable categorize the sources according to industrial and nonindustrial types. The results of industrial waste surveys performed by the City of Morro Bay and the Cayucos Sanitation District in 1994, 1999 and 2002 indicate that there were no significant sources of toxic pollutants from industrial waste entering the collection system that conveys the community's wastestream to the treatment plant.

C. Industrial Pretreatment Requirements. Under 40 CFR 125.66(c), applicants with known or suspected industrial sources of toxic pollutants must have an approved industrial pretreatment program. The control of industrial sources is also addressed by the pretreatment program regulations [40 CFR 403.8(d)]. Small discharges with no known or suspected sources of toxic pollutants are exempted from the 301(h) pretreatment requirements. The applicant originally provided such certification in the first renewal process in 1993. Based on this certification, EPA and the Central Coast Regional Water Quality Control Board exempted MBCSD from the pretreatment requirements. The applicant was required to implement a Pollution Prevention Plan to meet the requirements for a Nonindustrial Source Control Program (See Section 7 below).

6. Urban Area Pretreatment Program [Section 301(h)(5), Section 303(c) of the Water Quality Act of 1987].

Large applicants for a modified NPDES permit under section 301(h) of the Act that receive one or more toxic pollutants from an industrial source are required to comply with the urban area pretreatment requirements. As a small discharger, MBCSD is exempt from the urban area pretreatment requirement.

7. Nonindustrial Source Control Program [Section 301(h)(7), 40 CFR 125.66(d)].

Under 40 CFR 125.66(d), which implements section 301(h)(7), the applicant must have a proposed public education program designed to minimize the entrance of nonindustrial toxic pollutants and pesticides into their water pollution control facility (40 CFR 125.66(d)(1)). In certain cases, applicants may be required to implement additional nonindustrial source control programs (40 CFR 125.66(d)(2)).

The applicant has reported that they maintain an on-going Pollution Prevention Program to minimize the introduction of pollutants and pesticides into the treatment plant process; see Section III.H.3 of the applicant's Supplemental Report for complete discussion. This

program was required as a provision of the existing NPDES permit to meet the requirements for a nonindustrial source control program under 40 CFR 125.66(d)(1). The program, as described by the applicant, incorporates three major aspects toward pollution prevention: 1) public outreach/education, 2) industrial waste reduction, and 3) pollution source identification. As part of this program, the applicant has implemented a hazardous waste disposal and recycling program designed to allow local residents and businesses to properly dispose of unwanted and unused materials (such as organ solvents, pesticides, car batteries, etc.) which might otherwise be dumped into the facilities collection system and/or municipal storm drains. Other measures, such as grease-trap inspections and source identification efforts are being implemented by the applicant in an effort to minimize the introduction of pollutants and pesticides into the treatment plant process.

Implementation of additional nonindustrial source control programs is not required for small dischargers which certify that there are no known or suspected water quality sediment accumulation, or biological problems related to pollutants or pesticides in its discharge. The applicant has stated that "there are no known sources of priority pollutants or pesticides within the collection system that feeds the MBCSD WWTP" and that "the absence of significant nonindustrial input of toxins is supported by the lack of toxic pollutants in either the WWTP effluent or sludge over the past 4.5 years." Based on this information, EPA finds that no additional nonindustrial source control programs are required.

8. Increase in Effluent Volume or Amount of Pollutants Discharged [Section 301(h)(8), 40 CFR 125.67]

Under 40 CFR 125.67, which implements section 301(h)(8), the applicant's proposed modified pollutant discharge may not increase above the amount specified in the 301(h) modified NPDES permit. The NPDES permit establishes the following limits based on an average dry weather flow of 2.06 MGD:

Suspended Solids:
70 mg/L (30-day ave.); 105 mg/L (Instant. Max.); 199 MT/yr (Ann. ave.)

BOD:
120 mg/L (30-day ave.); 180 mg/L (Instant. Max.)

9. Compliance with Primary Treatment and Federal Water Quality Criteria [Section 301(h)(9), Section 303(d)(1) and (2) of the Water Quality Act of 1987].

A. Primary Treatment Standards.

Under Section 303(d)(1) of the Water Quality Act of 1987 (WQA), the

applicant's wastewater effluent must be receiving at least primary treatment at the time their Section 301(h) permit becomes effective. Section 303(d)(2) of the WQA states that, "Primary or equivalent treatment means treatment by screening, sedimentation, and skimming adequate to remove at least 30 percent of the biological oxygen demanding material and other suspended solids in the treatment works influent, and disinfection, where appropriate." In addition, the COP requires 75% removal of suspended solids based on a 30-day average. To meet the 30-day average permit limit for BOD (120 mg/L) the plant must remover greater than 30% of BOD.

Over the time period between 1986 and 2002, on average, the applicant removed 88% of TSS and 79% of BOD on an annual basis. Monthly TSS removal efficiencies for 2001 and 2002 averaged 89% and 86%, respectively. Monthly BOD removal efficiencies for the same years averaged 83% and 82%, respectively. The applicant has demonstrated the ability to meet the 30% removal requirement of TSS and BOD and the COP requirement for 75% removal of TSS. Effluent limitations being established as part of the 301(h) modified NPDES permit will continue to ensure that this requirement is met throughout the permit term.

B. U.S. EPA Water Quality Criteria.

Under section 303(d)(1) of the WQA, a discharger must be in compliance with the criteria established under section 304(a)(1) of the Clean Water Act at the time their 301(h) permit becomes effective. These criteria include saltwater Water Quality Criteria, and 301(h) pesticides Water Quality Criteria.

Based on a review of the applicant's discharge data, EPA concludes that all federal criteria will be met after initial dilution (See Section 2A). NPDES permit limits have been established along with effluent monitoring requirements to ensure continued compliance with EPA criteria.

COMPLIANCE WITH OTHER APPLICABLE LAWS.

40 CFR 125.59(b)(3) provides that a 301(h) modified NPDES permit may not be issued if such issuance would conflict with applicable provisions of State, local, or other Federal laws or Executive Orders.

1. State Coastal Zone Management Program [40 CFR 125.59(b)(3)].

40 CFR 125.59(b)(3) provides that issuance of a 301(h) modified NPDES permit must comply with the Coastal Zone Management Act, 16 U.S.C. 1451 et seq. In accordance with 16 U.S.C. 1456(c)(3)(A), a 301(h) modified NPDES permit may not be issued unless the proposed discharge is certified by the State to comply with the applicable State coastal zone management program(s) approved under the Coastal Zone Management Act, or the State waives such certification.

2. Marine Sanctuaries [40 CFR 125.59(b)(3)].

40 CFR 125.59(b)(3) provides that issuance of a 301(h) modified NPDES permit must comply with Title III of the Marine Protection, Research, and Sanctuaries Act, 16 U.S.C. 1431 et seq. In accordance with 16 U.S.C. 1432(f)(2), a 301(h) modified permit may not be issued for a discharge located in a marine sanctuary designated pursuant to Title III if the regulations applicable to the sanctuary prohibit issuance of such a permit.

The MBCSD discharge into Estero Bay is approximately 20 miles south of the southern border of the Monterey Bay National Marine Sanctuary, which was established by NOAA in 1992. In addition, the subject discharge is located within 1.5 miles of the mouth of Morro Bay, which has been designated as a National Estuary by the federal government. However, the applicant's discharge is too small and too far from the Sanctuary and Estuary to have any possible adverse impact to either waterbody.

The discharge is not near areas of special biological significance designated by the California State Water Resources Control Board.

3. Endangered or Threatened Species [40 CFR 125.59(b)(3)].

40 CFR 125.59(b)(3) provides that issuance of a 301(h) modified NPDES permit must comply with the Endangered Species Act, 16 U.S.C. 1531 et seq. In accordance with 16 U.S.C. 1536(a)(2), a 301(h) modified NPDES permit may not be issued if the proposed discharge will adversely impact threatened or endangered species or critical habitats listed pursuant to the Endangered Species Act.

In 1983, EPA designated MBCSD as their non-Federal representative to the US Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) to conduct informal consultation on the potential impact of the discharge on endangered species under section 7 of the Endangered Species Act.

In the original application in 1987, compliance with the Endangered Species Act was established based on the transitory nature of the gray whale and California sea otter, and a lack of toxic pollutants and pesticides to affect the California brown pelican and American peregrine falcon by the USFWS and NMFS. Since that time the gray whale populations recovered sufficiently to be removed from the list on June 16, 1994. There have been no significant changes in plant operations or effluent quality that would change the level of impacts to endangered species. Both federal agencies reaffirmed their approval of the last permit, as provided in correspondence by the USFWS in a letter dated 21, 1998, and by the NMFS in a letter dated July 30, 1998.

Relative to the current application, the applicant has obtained a

compliance assurance letter from NMFS, dated August 12, 2003, and has requested a compliance assurance letter from the USFWS. EPA understands that no new listing(s) (or de-listing) of endangered species, which potentially may be influenced by the applicant's discharge, by the USFWS during the last permit cycle have taken place.

In recent years, infections of southern sea otters along the Central Coast were occurring due to *Toxoplasma gondii*, a protozoan parasite known to originate primarily from felines. Scientists speculated that flushable cat litter may be a source of *T. gondii* from wastewater. Early studies detected *Toxoplasma* in lab-exposed mussels (Miller *et al.*, 2002). Therefore, the MBCSD voluntarily collaborated with U.C. Davis in conducting bioaccumulation studies in 2003 and 2004 using bagged mussels deployed at an outfall buoy. The mussels were analyzed for *Toxoplasma* RNA. *Toxoplasma* RNA was not detected in any of the 120 mussels from the outfall buoy site.

STATE CONCURRENCE IN VARIANCE.

Section 301(h) and 40 CFR 125.59(i)(2) provide that a 301(h) variance may not be granted until the appropriate State certification/concurrence is granted or waived pursuant to 40 CFR 124.54. In accordance with the procedures of 40 CFR 124.53(a), before EPA may issue the applicant a 301(h) modified NPDES permit, the State must either grant certification pursuant to section 401 of the Act or waive certification. Such action by the State will serve as State concurrence in the variance.

EPA Region IX and the California State Water Resources Control Board have developed a Memorandum of Understanding (MOU; May 1984) outlining the procedures that each agency will follow to coordinate the implementation of section 301(h) and State waste discharge requirements. The MOU specifies that the joint issuance of an NPDES permit which incorporates both 301(h) decision and State waste discharge requirements will serve as the State's concurrence.

The applicant submitted a letter to the Central Coast Regional Water Quality Control Board requesting state concurrence under 40 CFR 125.61(b)(2) and 125.64(b) (Letter from Bruce Keogh to Roger Briggs dated June 23, 2003).

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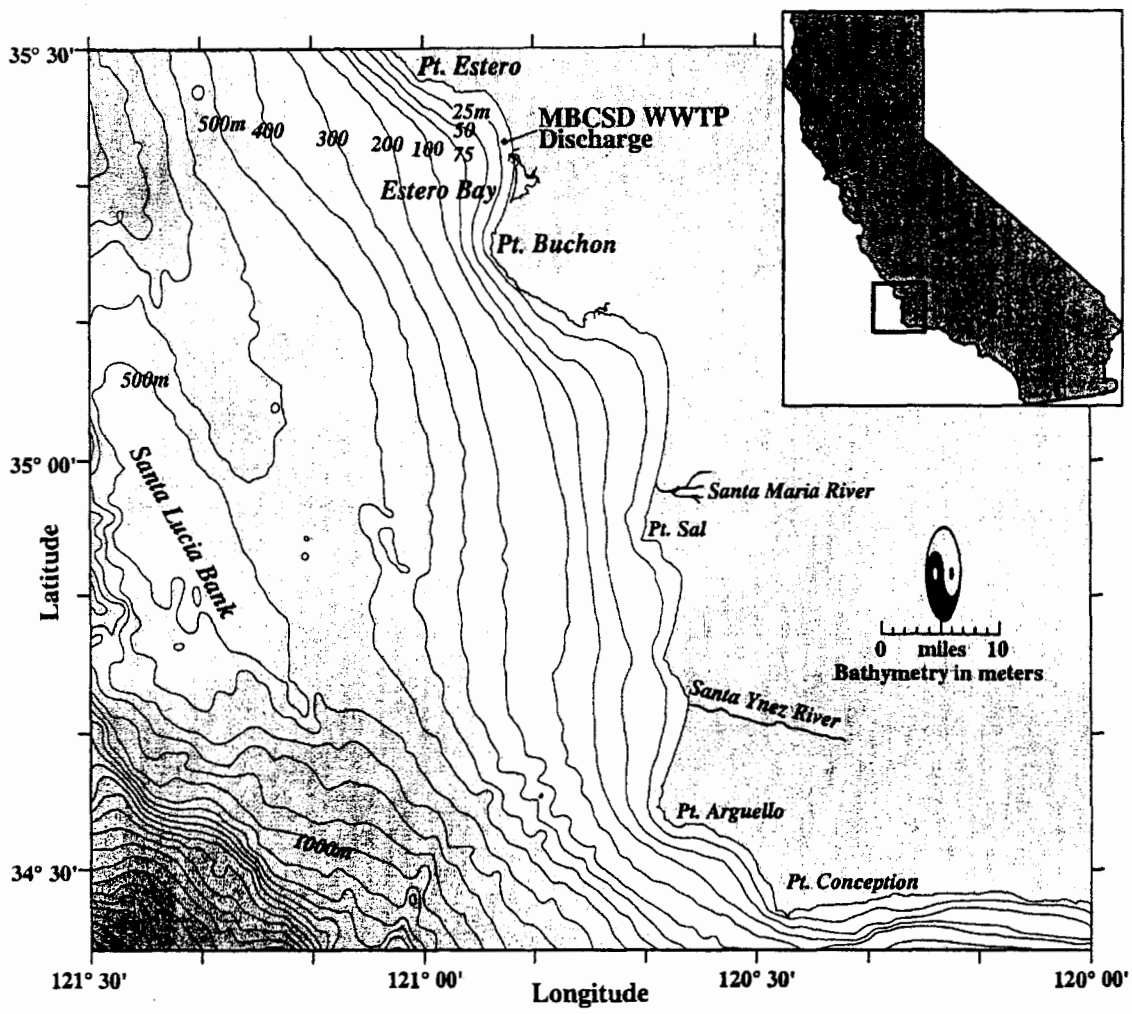

Figure 1. Location of the MBCSD Facility

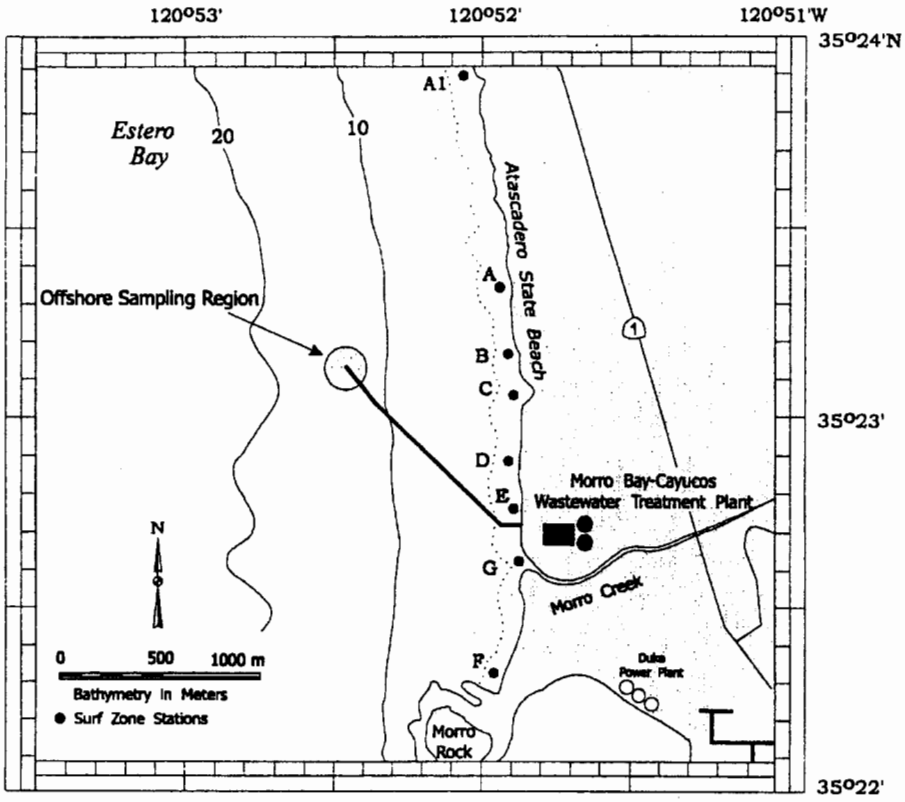

Figure 2. Location of MBCSD Outfall and Shoreline Monitoring Stations

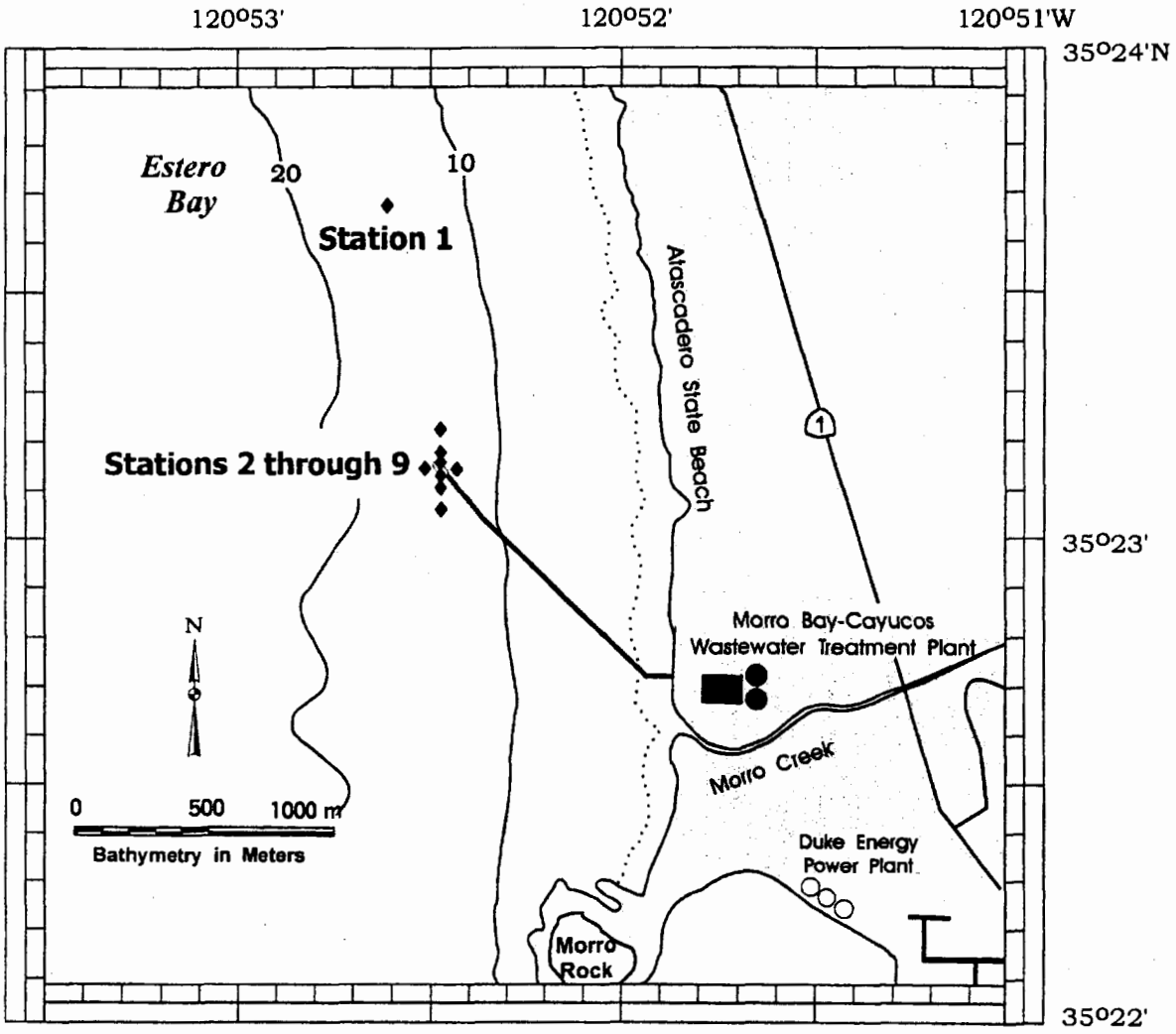

Figure 3. Benthic Sampling Stations

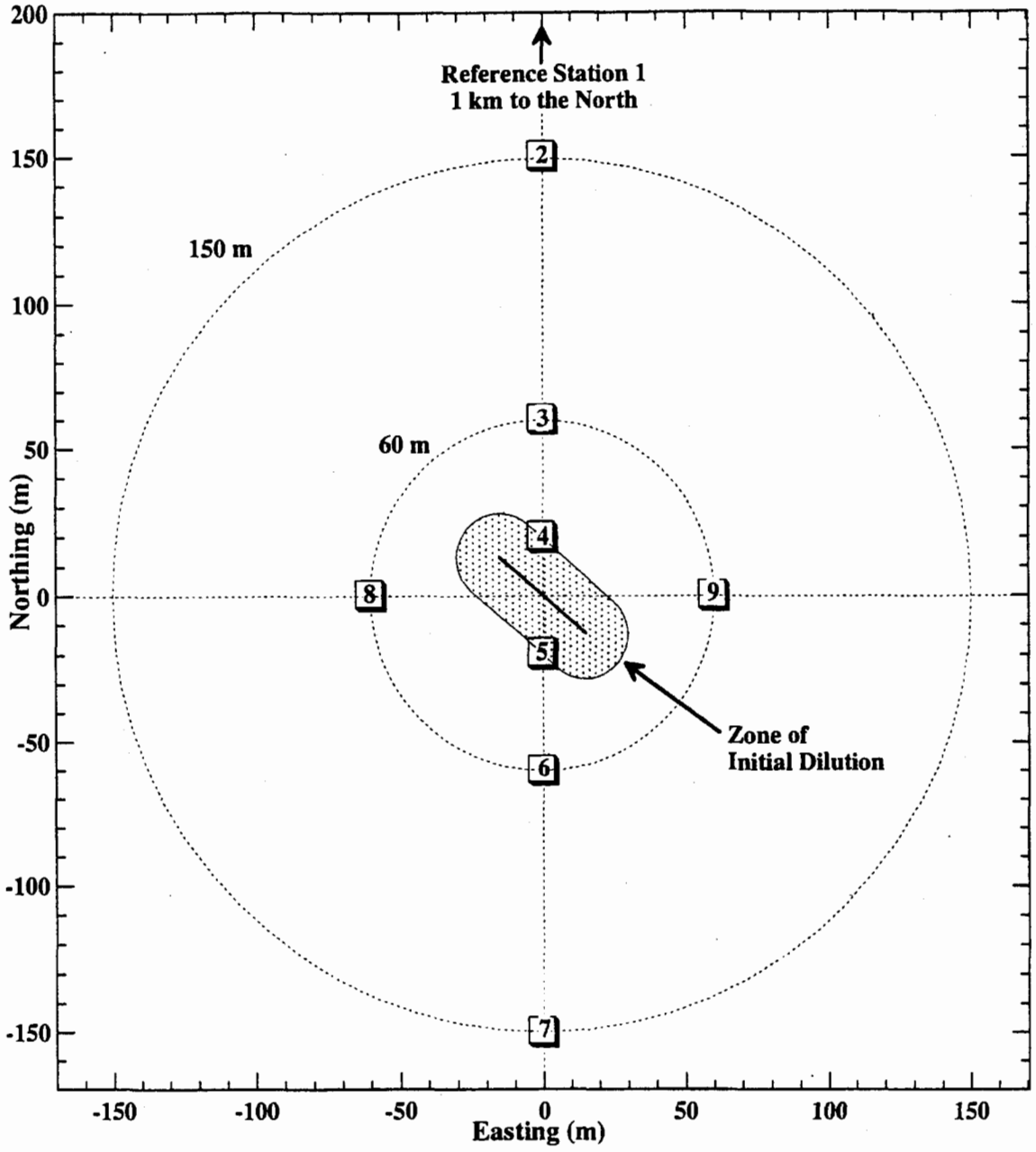

Figure 4. Benthic Sampling Stations Relative to the ZID

SETTLEMENT AGREEMENT FOR ISSUANCE OF PERMITS TO AND UPGRADE OF THE MORRO BAY-CAYUCOS WASTEWATER TREATMENT PLANT

THIS AGREEMENT ("Agreement") is made by and between the CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, CENTRAL COAST REGION (the "RWQCB"), on the one hand, and the CITY OF MORRO BAY and the CAYUCOS SANITARY DISTRICT (collectively, the "Discharger"), on the other hand. The RWQCB and the Discharger are collectively referred to as the "Parties," and each of them may be singularly referred to as a "Party."

Recitals

A. Pursuant to the requirements of the Clean Water Act ("CWA") section 402 (33 U.S.C. §1342) and Water Code sections 13000 et seq., the RWQCB or the United States Environmental Protection Agency (the "EPA") must prepare and adopt a National Pollutant Discharge Elimination System ("NPDES") permit for the Discharger's wastewater discharge, every five (5) years.

B. Although NPDES permits issued to publicly owned treatment works generally specify secondary treatment of wastewater (33 U.S.C. §1311(b)(1)(B)) or more stringent standards, Congress has authorized the issuance of discharge permits with modified secondary treatment standards under CWA section 301(h) (33 U.S.C. §1311(h)). To qualify for a modified discharge permit, a discharger must satisfy the conditions of CWA Section 301(h) and applicable regulations. The Discharger currently discharges its treated wastewater under a 301(h) modified discharge permit (No. CA0047881) jointly issued by the EPA and the RWQCB, which became effective on March 1, 1999. On July 3, 2003, the Discharger applied to EPA and the RWQCB for another 301(h) modified discharge permit with a peak seasonal dry weather flow limit of 2.36 million gallons per day ("mgd").

C. A modified discharge permit was issued to the discharger in March 1985 (Permit No. CA0047881) by the EPA, Region 9 and the RWQCB. This original permit expired in March of 1990 and has been reissued by the EPA and the RWQCB twice since in

EXHIBIT NO. 3
APPLICATION NO.
CC-003-06

March 1993 and March 1999. The current (re-issued) permit expired on March 1, 2004, and has been administratively extended until a decision regarding the application is made. On November 10, 2005, the EPA issued its Tentative Decision for the renewal of Discharger's application for a 301(h) modified discharge permit. The EPA's Tentative Decision states the Discharger has successfully demonstrated (through past performance) the ability to comply with the California Ocean Plan water quality standards for suspended solids, dissolved oxygen, and pH and will be in compliance with all applicable Federal water quality criteria. The RWQCB will consider the EPA's Tentative Decision at the time of the issuance of the Modified Discharge Permit.

D. Subject to the provisions of this Agreement regarding the RWQCB's discretion and New Evidence (defined below), this Agreement contemplates that the Water Board will concur in the Modified Discharge Permit (defined below) and issue the NPDES Permit (defined below), which will effect the Discharger's obligation to complete the upgrade of its treatment facility to a minimum of full secondary treatment standards within an eight year period. Pursuant to the May 1984 Memorandum of Understanding ("MOU") for Modified NPDES Permits Under Section 301(h) of the CWA between the California State Water Resources Control Board and EPA Region 9, the RWQCB concurs with EPA 301(h) modified discharge permits and issues CWA Section 401 certification by issuing final waste discharge requirements. Concurrently with issuance of the waste discharge requirements, EPA issues a NPDES permit including the 301(h) modified discharge permit provisions. References in this Agreement to the RWQCB "issuing" a permit means, as applicable, issuance by the RWQCB of waste discharge requirements that constitute Section 401 certification of and concurrence with an EPA NPDES permit that includes modifications under Section 301(h), or issuance by the RWQCB of an NPDES permit.

E. On April 27, 2006, the JPA approved the upgrade of the Plant to meet full secondary treatment standards by March 31, 2014.

F. On May 24, 2007, Cayucos Sanitary District Board of Directors unanimously approved a further upgrade of the Plant to achieve tertiary treatment standards within the same time

frame. On May 29, 2007, the Morro Bay City Council also unanimously approved a further upgrade of the Plant to achieve tertiary treatment standards.

G. In September 2007, the EPA released its final Endangered Species Act Biological Evaluation and requested concurrence from the US Fish and Wildlife Services ("USFWS"). On December 21, 2007, USFWS issued a letter concurring with such conclusions set forth in the EPA's Endangered Species Act Biological Evaluation.

H. Disputes have arisen between the Parties who wish to avoid unnecessary delay, expense and the uncertainties resulting from litigation over treatment plant upgrade, the currently pending and potential future applications for discharge permits. The Parties, therefore, have agreed to settle and resolve issues related to the pending application for permit renewal as set forth in this Agreement.

Agreement

In consideration of the foregoing and the following and for other valuable consideration, the receipt of which is hereby acknowledged, the Parties agree as follows:

A. DEFINITIONS

1. Modified Discharge Permit: A five (5) year NPDES permit and waste discharge requirements jointly issued to the Discharger by the EPA and the RWQCB in or about December 2008 that will include requirements for biochemical oxygen demand (BOD_5) and suspended solids that are modified pursuant to CWA section 301(h), and that are no more stringent than the limits in the Discharger's current NPDES permit.

2. NPDES Permit: A five (5) year NPDES permit issued to the Discharger upon the expiration of the Modified Discharge Permit that includes final effluent limits for biochemical oxygen demand (BOD_5) and suspended solids that are at least as stringent as the CWA requirements for full secondary treatment. Interim effluent limits to effect the Conversion Schedule will be set forth in the NPDES Permit, if allowed by law, or in a 13385(j)(3) Order.

3. Conversion Schedule: The schedule for upgrading to at least full secondary treatment as set forth in Section B.1. It is not the intent of this Agreement to impose numeric or narrative requirements for other constituents (e.g., limits for bacteria) that would effectively require the Discharger to upgrade to at least full-secondary treatment faster than provided under the Conversion Schedule.

4. Conversion Period: The eight (8) year upgrade period ending on the last date listed in the Conversion Schedule.

5. New Evidence: Clear and convincing evidence not in the administrative record at the time the Modified Discharge Permit is issued that more stringent limits for BOD_5 or suspended solids are necessary.

6. 13385(j)(3) Order: A time schedule order or cease and desist order that requires the Discharger to complete the upgrade according to the Conversion Schedule, and that meets the requirements of Water Code section 13385(j)(3), in order to allow the RWQCB to avoid imposing mandatory minimum penalties.

B. TERMS.

1. Conversion Schedule

The Discharger agrees to undertake a program to install and operate equipment at its treatment plant capable of achieving, and that will achieve, full secondary treatment requirements set forth in 40 C.F.R. Part 133, other than 40 C.F.R. section 133.105. The upgraded treatment plant must adequately address future wastewater flows, projected as of the end of the Conversion Schedule. The Discharger shall complete the planning, design, construction and operation of the facilities necessary to attain compliance with the secondary treatment requirements in accordance with the Conversion Schedule set forth below .

CONVERSION SCHEDULE

Task	Date of Completion[1]
Preliminary Activities:	
1. Issuance of Request for Consulting Engineering Proposals for Facilities Master Plan	November 11, 2005
2. Award of Consulting Engineering Contracts	April 27, 2006
Facilities Planning:	
1. Submit Final Draft Facilities Master Plan	November 30, 2007
2. Submit Final Facilities Master Plan	September 30, 2009
Environmental Review and Permitting:	
1. Complete and Circulate Draft CEQA Document	February 27, 2009
2. Obtain Coastal Development Permit	May 31, 2011
Financing:	
1. Complete Draft Plan for Project Design and Construction Financing	December 31, 2007
2. Complete Final Plan for Project Financing	June 30, 2008
3. Submit proof that all necessary financing has been secured, including compliance with Proposition 218	October 30, 2009
Design and Construction:	
1. Initiate Design	September 30, 2010
2. Issue Notice to Proceed with Construction	March 29, 2012
3. Construction Progress Reports	Quarterly (with SMRS)
4. Complete Construction and Commence Debugging and Startup	January 31, 2014
5. Achieve Full Compliance with Secondary Treatment	March 31, 2014

1. Any completion date falling on a Saturday, Sunday, or State holiday shall be extended until the next business day. The Discharger shall submit proof of completion of each task within 30 days after the due date for completion.

2. Secondary Treatment Limits and Discharger's Conversion to Secondary.

a. First Permit Cycle – Waiver Permit.

1. At its December 5, 2008 meeting, or as soon thereafter as practicable, the RWQCB's Executive Officer shall recommend that the RWQCB (i) concur in the issuance of the Modified Discharge Permit, and (ii) provide water quality certification of the Modified Discharge Permit under the CWA Section 401 (33 U.S.C. §1341). The Executive Officer shall consider all evidence presented at such meeting before making this recommendation. If any evidence not in the record as of May 4, 2006 causes the Executive Officer to recommend against concurrence and certification, he shall identify such new evidence.

2. The BOD_5 and suspended solids limits to be recommended by the Executive Officer for approval are as follows:

Constituent	Units	Monthly (30-day) Average	Maximum at any time
BOD_5 (20°C)	mg/L	120	180
	lbs/day	2062	3092
	kg/day	936	1404
Suspended Solids	mg/L	70	105
	lbs/day	1203	1804
	kg/day	546	819

3. The findings in the Modified Discharge Permit shall reference this Agreement and shall incorporate the Conversion Schedule. The draft Modified Discharge Permit's findings shall also state that:

(i) Subject to the provisions of this Agreement regarding the RWQCB's Discretion (below) and New Evidence, this Agreement contemplates that the RWQCB will concur in the Modified Discharge Permit and issue the NPDES Permit in order to effect the Discharger's agreement and obligation to complete the upgrade of its treatment facility to full secondary treatment standards within an eight (8) year period.

(ii) Based on the administrative record, including population growth projections through 2015, known environmental and cumulative impacts of the Discharger's existing wastewater treatment facilities, and evidence submitted by the Discharger of the time needed for upgrading the plant, the Conversion Schedule is reasonable, necessary and appropriate.

4. The Modified Discharge Permit shall require the Discharger, as a condition, to submit an application to the RWQCB at least 180 days before the expiration of the Modified Discharge Permit, which application requests the NPDES Permit. The Discharger agrees not to apply for a permit that includes modifications to full secondary discharge requirements after the expiration of the Modified Discharge Permit.

5. If the RWQCB concurs with the Modified Discharge Permit and issues water quality certification, the Discharger shall complete the tasks in the Conversion Schedule by their respective due dates, except as extended in accordance with this Agreement.

b. Second Five-Year Permit Cycle – NPDES Permit. For the five (5) year period following the expiration of the Modified Discharge Permit, the RWQCB shall (i) issue a NPDES Permit that includes effluent limits consistent with CWA full secondary treatment requirements, or any more stringent requirements that are necessary due to New Evidence or that the Discharger agrees to, and (ii) concurrently issue a 13385(j)(3) Order. The 13385(j)(3) Order shall include interim effluent limits for BOD_5 and suspended solids that are the same as those in the Modified Discharge Permit. Notwithstanding the foregoing, the RWQCB may include more stringent limits for BOD_5 and suspended solids if there is New Evidence. The RWQCB may include a shorter Conversion Schedule, after considering the feasibility of meeting a shorter Conversion Schedule, if there is New Evidence that a shorter schedule is necessary. In either case, the NPDES Permit findings shall clearly identify the New Evidence.

c. Other Permit Provisions. This Agreement does not address any effluent limits of the Modified Discharge Permit and the NPDES Permit other than BOD_5 or suspended solids. Notwithstanding anything herein the contrary, Discharger reserves the right to challenge any other provision of the Modified Discharge Permit and the NPDES Permit besides BOD_5 and suspended solid limits or the Conversion Schedule.

d. RWQCB Discretion.

1. This Agreement does not limit the discretion the RWQCB would otherwise have regarding the subject matter of this Agreement. The Parties understand that the RWQCB's members must consider the evidence before them and exercise their authority consistent with applicable laws, the record before them, and the discretion vested in them by applicable laws. Any decision by the RWQCB not to issue the Modified Discharge Permit, NPDES Permit or 13385(j)(3) Order, or to issue a permit that includes more stringent requirements than those set forth herein, e.g.,

more stringent BOD_5 or suspended solids limits or a shorter Conversion Period (either explicitly or through the imposition of effluent limits or other requirements that require a shorter Conversion Period), shall not constitute a breach of this Agreement by the RWQCB. However, the RWQCB's concurrence with the Modified Discharge Permit and related water quality certification, and the issuance of the 13385(j)(3) Order concurrently with the NPDES Permit, are conditions precedent to the Discharger's continuing obligations under this Agreement.

2. The Discharger does not waive the right to challenge the imposition of more stringent limits or standards or a shorter Conversion Schedule than set forth herein, but agrees not to challenge any provision of the Modified Discharge Permit, NPDES Permit or other order of the RWQCB that are consistent with the standards set forth in this Agreement (i.e., Conversion Schedule; BOD_5 and suspended solids effluent limits; remedies for not meeting the Conversion Schedule). Nothing in this Agreement relieves the Discharger of the requirement to exhaust applicable administrative remedies, including those set forth in Water Code Section 13320, to challenge any provision of the Modified Discharge Permit, the NPDES Permit or the 13385(j)(3) Order. The Discharger's sole remedy for any claimed violation of this Agreement shall be by petition pursuant to Water Code Section 13320 and, if applicable, a writ under Water Code Section 13330. The parties acknowledge that the State Board may decline to review any petition filed pursuant to this Agreement. The Discharger hereby waives all of its rights, if any, to seek damages from the Water Board or any of its employees in the event the Discharger claims a breach of this Agreement. Nothing herein shall operate as a waiver of any defenses the RWQCB or its employees may assert in such an action.

C. REQUIRED ACTIONS DURING CONVERSION PERIOD.

1. Force Majeure

a. A "force majeure event" is any event beyond the control of the Discharger, its contractors, or any entity controlled by the Discharger, including, but not limited to third party litigation that delays the performance of any obligation under this Agreement despite the Discharger's best efforts to fulfill the obligation. "Best efforts" includes addressing the effects of any such event (a) as it is occurring and (b) after it has occurred, to prevent or minimize any resulting delay to the greatest extent feasible. If any event occurs that the Discharger believes is a force majeure event, the Discharger shall immediately notify the RWQCB by telephone, and shall

notify the Water Board in writing within thirty (30) calendar days of the date on which the Discharger first knew of the event. The notice shall describe the anticipated length of time the delay may persist, the precise cause or causes of the delay, the measures taken or to be taken by the Discharger to prevent or minimize the delay as well as to prevent future delays, and the timetable by which those measures will be implemented. Failure by the Discharger to comply with the notice requirements of this paragraph, without good cause shall constitute a waiver of the Discharger's right to obtain an extension of time for its obligations based on such incident.

b. If the Executive Officer agrees that a violation has been caused by a force majeure event, the time for performance of an affected requirement shall be extended for a period not to exceed the actual delay in performance resulting from such circumstance. In addition, liquidated damages shall not be due for said delay. The Executive Officer or the Executive Officer's designee shall notify the Discharger of the agreement or disagreement with the Discharger's claim of a delay or impediment to performance within thirty (30) calendar days of receipt of the Discharger's notice. If the Executive Officer does not so agree, or does not notify the Discharger of its decision within thirty (30) calendar days, the request for force majeure classification shall be deemed denied, and the Discharger may appeal that determination to the RWQCB and, if denied thereby, may appeal to the State Board. Notwithstanding anything herein to the contrary, Discharger reserves the right to seek judicial review of the State Board decision. The Discharger bears the burden of proving, by a preponderance of the evidence, that each claimed force majeure event is a force majeure event; that the Discharger gave the notice required by this Section; that the force majeure event caused the delay the Discharger claims was attributable to that event; and that the Discharger reasonably attempted to prevent or minimize any delay caused by the event.

c. Unless determined to be a force majeure event, unanticipated or increased costs or expenses associated with the implementation of this Agreement, or changed financial circumstances, shall not, in any event, serve as a basis for extensions of time under this Agreement, unless otherwise agreed by the Executive Officer.

d. An extension of one compliance date based on a particular incident may, but shall not necessarily result in an extension of a subsequent compliance date or dates.

e. Where the Executive Officer agrees to an extension of time, the appropriate modification shall be made to this Agreement.

f. If the Discharger fails to timely complete a task in the Conversion Schedule because the Discharger must first complete another task with a later due date, the later due date shall not be a defense to missing the earlier due date.

E. ENFORCEMENT

1. Except for force majeure events as provided above, and except as otherwise agreed by the Parties, if the Discharger fails to complete a required action by the date set forth in the Conversion Schedule, liquidated damages shall accrue as set forth below. Liquidated damages shall accrue only with respect to one task on the Conversion Schedule at a time. In other words, if the Discharger is behind schedule with respect to more than one required task, liquidated damages shall accrue only for the most recent task.

a. Liquidated damages shall be $100/day for the following milestones, which are to be completed prior to the Discharger's issuance of a Notice to Proceed: Issuance of Request for Consulting Engineering Proposals, Submit Final Draft Facilities Plan, Complete and Circulate Draft CEQA Document, Obtain Coastal Development Permit, submit proof that all necessary financing has been secured and Initiate Design. The Discharger shall pay all such accrued liquidated damages within thirty (30) days following the due date for achieving full compliance with secondary treatment requirements. If the Discharger is current (i.e. has "caught up" with the Conversion Schedule) by the due date for achieving full compliance with secondary treatment requirements, or if the RWQCB does not issue the 13385(j)(3) Order, any accrued liquidated damages thereon shall be cancelled and forgiven.

b. Liquidated damages shall be $200/day if the Discharger fails to issue a timely Notice to Proceed. The Discharger shall pay all such accrued liquidated damages, within thirty (30) days following the due date for achieving full compliance with secondary treatment requirements. If the Discharger is current (i.e. has "caught up" with the Conversion Schedule) by the due date for achieving full compliance with secondary treatment requirements, any accrued liquidated damages thereon shall be cancelled and forgiven.

c. Liquidated damages shall be $250/day for the first 180 days if the Discharger fails to achieve compliance with secondary treatment requirements by the date specified in the Conversion Schedule. For the next 185 days following the initial 180 days, liquidated damages shall be $500/day until the Discharger achieves full compliance with full secondary treatment

requirements. After 365 days, liquidated damages shall be $1,000/day until the Discharger achieves full compliance with full secondary treatment requirements. Liquidated damages under this paragraph shall be paid by the Discharger quarterly, commencing on the first day of the next calendar quarter that is at least thirty (30) days following the date on which the stipulated penalty is incurred.

2. In addition to or in lieu of seeking liquidated damages, the RWQCB may seek judicial enforcement, including specific performance, of this Agreement, including without limitation enforcement of the tasks and due dates set forth in the Conversion Schedule.

3. If the Executive Officer does not agree that a delay in the Discharger's performance was caused by a force majeure event and the Discharger does not stipulate in writing to the amount of penalties due after missing a milestone under the Conversion Schedule, the RWQCB may impose liquidated damages by issuing an administrative civil liability complaint, pursuant to Water Code Sections 13323-13328. This Agreement satisfies the requirement that the RWQCB consider the factors in Section 13327. If the RWQCB chooses to consider those factors, it may impose liquidated damages in excess of the amounts stated in Section E.1, but nothing in this Agreement waives the Discharger's right to contest amounts in excess of those stated in Section E.1. If the RWQCB utilizes the procedures of Sections 13323-13328, the Parties agree that the liquidated damages shall be deemed administrative civil liability. The RWQCB may hold administrative civil liability proceedings at any time, but any administrative civil liability order shall include the applicable payment due date and conditions of cancellation and forgiveness set forth in Sections E.1.a and E.1.b. The Discharger may, but shall not be required to, waive the right to a hearing. If the Discharger does not waive the right to a hearing, except as otherwise stated in this paragraph 3, the Discharger agrees not to challenge the daily amount of the liquidated damages as set forth in this Agreement. The issues for hearing shall be limited to whether the Discharger undertook or completed the required task or activity by the completion date(s) in question, the number of days or months for which liquidated damages apply, and whether the delay, if any, was caused by force majeure. The Discharger agrees not to contest the use of the administrative civil liability process and waives any claim that Water Code Sections 13323-13328 do not apply to administrative enforcement of the stipulated penalty provisions of this Agreement. However, the Discharger reserves the right to petition to the State Board for review of any decision made by the RWQCB under this paragraph. Upon the filing of such a petition, the Discharger and the RWQCB shall

jointly request that the petition be held in abeyance until such time as it is determined, as applicable, that the liquidated damages at issue are not subject to cancellation and forgiveness under Section E.1, such that it can be determined whether any liquidated damages are due and the amount thereof. Following the expiration of the abeyance and either final action by the State Board on the Discharger's petition or the dismissal of the Discharger's petition by the State Board without review, the Discharger may seek judicial review in accordance with California Water Code Section 13330 with respect to the administrative civil liability order. In any such action the Discharger agrees not to challenge the daily amount of the liquidated damages as set forth in this Agreement. Nothing in this paragraph 4 shall relieve the Discharger of any obligation to exhaust applicable administrative remedies prior to seeking judicial review.

4. The requirements of this Agreement with respect to (i) the Conversion Schedule, (ii) the Conversion Period, and (iii) liquidated damages shall be incorporated into the findings adopted by the RWQCB in connection with the Modified Discharge and NPDES Permits. In addition to the procedures set forth above for enforcement with respect to failure to meet the Conversion Schedule, the RWQCB may use any enforcement action or procedure to remedy any and all violations of the terms of any permit (including the Modified Discharge or NPDES Permits) issued to the Discharger, including, without limitation, any remedy set forth in the California Water Code. Nothing in this Agreement shall limit other remedies available to either Party to enforce the terms and conditions of this Agreement or of any permit or 401 certification issued to the Discharger.

F. MISCELLANEOUS PROVISIONS

1. No Admission of Liability. Except as set forth in this Agreement, nothing in this Agreement shall be construed as an admission of liability by any Party, or as a waiver of any future claims or causes of action, or as an agreement on the appropriate standard of review or causes of action or claims that may be asserted in challenging any permit issued to the Discharger or the requirements thereof.

2. Signatures. This Agreement may be signed in counterparts. Signatures transmitted by facsimile shall be deemed to have the same force and effect as original signatures. Photocopies and facsimiles of counterparts shall be binding and admissible as originals.

3. Representation by Counsel. The Parties agree and confirm that this Agreement has been freely and voluntarily entered into by the Parties, each of which has been fully represented by

counsel at every stage of the proceedings, and that no representations or promises of any kind, other than as contained herein, have been made by any Party to induce any other Party to enter into this Agreement. The language of this Agreement shall be construed in its entirety, according to its fair meaning, and not strictly for or against any of the Parties.

4. **Integrated Agreement.** Except as otherwise set forth in this Agreement, this Agreement contains the entire understanding of the Parties concerning the matters contained herein and constitutes an integrated agreement.

5. **Subsequent Amendment.** This Agreement may not be altered, amended, modified, or otherwise changed except after a public meeting by a writing executed by each of the Parties. The RWQCB may, on a case-by-case basis in a public meeting, delegate to the Executive Officer the authority to approve and sign on behalf of the RWQCB written amendments to this Agreement.

6. **Effective Date.** This Agreement is effective when signed by all Parties and the effective date shall be date of the last signature.

7. **Notice Requirements.** Any notice provided under this Agreement shall be provided by facsimile and first class mail as follows:

If to the Discharger:

District Manager
Cayucos Sanitary District
200 Ash Avenue
P.O. Box 333
Cayucos, CA 93430
Telephone: (805) 995 3290
Facsimile: (805) 995 3673

City Manager
City of Morro Bay
595 Harbor
Morro Bay, California 93442
Telephone: (805) 772-6200
Facsimile: (805) 772-7329

If to the Water Board:

Roger W. Briggs, Executive Officer
REGIONAL WATER QUALITY CONTROL BOARD,
CENTRAL COAST REGION
895 Aerovista Place, Suite 101
San Luis Obispo, CA 93401
Telephone: (805) 549-3147
Facsimile: (805) 543-0397

Frances McChesney, Esq.
STATE WATER RESOURCES CONTROL BOARD
1001 I Street, P.O. Box 100
Sacramento, CA 95814
Telephone: (916) 341-5165
Facsimile: (916) 341-5199

Marilyn H. Levin, Esq.
OFFICE OF THE ATTORNEY GENERAL
300 South Spring Street, Suite 1702
Los Angeles, CA 90013-1233
Telephone: (213) 897-2612
Facsimile: (213) 897-2802

8. **Authority.** Each Party to this Agreement warrants that the individual executing this Agreement is duly authorized to do so and that execution is the act and deed of the Party.

9. **Counsel Approval.** Counsel for the represented Parties have negotiated, read, and approved as to form the language of this Agreement, the language of which shall be construed in its entirety according to its fair meaning and not strictly for or against any of the Parties.

10. **Fees and Costs.** The Parties acknowledge and agree that each of them will bear their own attorneys' fees and costs in the negotiation, drafting, and execution of this Agreement or any dispute arising out of this Agreement.

11. **Severability.** In the event that any provision of this Agreement is determined by a court of competent jurisdiction to be invalid, the remainder of this Agreement shall not be affected thereby and shall remain in full force and effect.

12. **Successors in Interest.** Whenever in this Agreement one of the Parties hereto is named or referenced, the legal representatives, successors, and permitted assigns of such Party shall be included and all covenants and agreements contained in this Agreement by or on behalf of any of the Parties hereto shall bind and inure to the benefit of their respective successors and permitted assigns, whether so expressed or not.

13. **References.** This Agreement is made without respect to number or gender, and as such, any reference to a party hereto by any pronoun shall include the singular, the plural, the masculine, and the feminine.

IN WITNESS WHEREOF, the Parties have executed this Agreement on the dates indicated below.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, CENTRAL COAST REGION

Dated: Dec 4, 2008

By: _____
Roger W. Briggs, Executive Officer

CITY OF ~~MORRO~~ BAY

Dated: Dec. 3, 2008

By: _____
Mayor, Janice Peters

CAYUCOS SANITARY DISTRICT

Dated: Nov. 19, 2008

By: _____
President, Robert Enns

APPROVED AS TO FORM

Dated: Dec. 4, 2008

By: _____
Frances McChesney
Senior Staff Counsel

Dated: Dec. 3, 2008

By: _____
Rob Schultz
Morro Bay City Attorney

Dated: 11/19, 2008

By: _____
Timothy J. Carmel
Cayucos Sanitary District Counsel

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ventura Fish and Wildlife Office
2493 Portola Road, Suite B
Ventura, California 93003

IN REPLY REFER TO:
2007-I-0253

December 21, 2007

Alexis Straus, Director
Region IX
U.S. Environmental Protection Agency
75 Hawthorne Street
San Francisco, California 94105

Subject: Continued Ocean Discharge from the Morro Bay/Cayucos Wastewater Treatment Plant

Dear Ms. Straus:

We have reviewed your letter dated September 6, 2007, and received in our office on September 7, 2007, requesting our concurrence with your determination that the subject project may affect, but is not likely to adversely affect, the endangered brown pelican (*Pelecanus occidentalis*) and threatened southern sea otter (*Enhydra lutris nereis*). We have based our response on conversations between our staffs and interested parties, documentation provided by the EPA, and information in our files. Your request and our response are made pursuant to section 7 of the Endangered Species Act of 1973, as amended (Act).

The U.S. Environmental Protection Agency (EPA) proposes to reissue an ocean discharge permit to the Morro Bay/Cayucos Wastewater Treatment Plant (Morro Bay/Cayucos) that authorizes the continued ocean disposal of municipal wastewater that does not meet federal secondary treatment standards. The Morro Bay and the Cayucos Sanitary District ("the applicant") has requested re-issuance of a permit under section 301(h) of the Clean Water Act, 33 U.S.C. section 1311(h). Such a permit, or 301(h) waiver, allows for the ocean disposal of wastewater from a publicly owned sewage treatment plant that is not required to meet federal secondary treatment requirements, as contained in section 301(b)(1)(B) of the Clean Water Act, 33 U.S.C. section 1311(b)(1)(B). The 301(h) waiver is being sought for the Morro Bay-Cayucos Wastewater Treatment Plant, which is a publicly owned treatment works.

The applicant received its first 301(h) waiver from the EPA and Regional Water Quality Control Board (RWQCB) in March 1985 (Permit No. CA0047881). This original permit expired in March of 1990 and has been reissued by both EPA and the RWQCB twice since, in March 1993 and March 1999. The current permit expired on March 1, 2004, and has been administratively extended until a final decision regarding the applicant's request for re-issuance of the waiver has been made.

Recently, the applicant and RWQCB have agreed to a multi-year infrastructure development and implementation plan that will provide for full secondary or tertiary treatment of the facility's wastewater prior to ocean disposal and/or water reuse. The applicant has requested that EPA continue to evaluate and consider the ocean waiver reapplication, as it would be several years before the applicant could achieve advanced treatment. Until the applicant can provide advanced treatment for all the influent wastewater, it would need to operate under a 301(h) waiver.

The treatment plant currently provides full primary and partial secondary wastewater treatment for a service population of about 13,800. The plant was originally built in 1954 and expanded in 1964. A new outfall was constructed and came into operation in1982. The current application is based on an average dry-weather flow of 2.06 million gallons per day (MGD). The treatment plant discharged an annual average of just over 1.0 million gallons per day for 2005 and 2006, respectively. Based on the definition in 40 CFR 125.58(c), the applicant is considered to be a small discharger. The current treatment system includes primary treatment of all influent by screening, grit removal and primary sedimentation. In addition, a major portion of the primary effluent receives secondary treatment on a daily basis in order for the final effluent (primary plus secondary) to meet California's minimum requirement of 75 percent solids removal. The secondary treatment process consists of parallel single-stage, high-rate trickling filters whose combined wastestream flows to a solid contact channel, and then to a secondary sedimentation tank. The effluent from the secondary treatment process is combined with that portion of primary effluent which does not receive secondary treatment before discharge to the ocean. The final, blended wastestream (i.e., primary plus secondary) is disinfected with chlorine prior to ocean discharge, which occurs by way of an outfall/diffuser system. The terminus of the outfall is located approximately 1.75 kilometers (1.25 miles) north of Morro Rock, and one kilometer (0.6 miles) from the Atascadero State Beach shoreline.

The average annual effluent concentration for Suspended Solids (SS) at the subject facility between 1998 and 2005 was 37.4 mg/L. Average removal efficiency for SS over the same time period was 88 percent; the California Ocean Plan requires at least 75 percent removal (as a 30-day average) as a minimum threshold for ocean dischargers, and 85 percent removal of SS (as a 30-day average) for purposes of meeting secondary treatment standards. The annual average Biological Oxygen Demand (BOD) concentration in the effluent between 1998 and 2005 was 53.5 mg/L. The removal efficiencies for BOD by the subject wastewater treatment plant during this same time period averaged 82 percent; the California Ocean Plan does not specify treatment-based effluent limits for BOD, but does require at least 85 percent removal of BOD (as a 30-day average) for secondary treatment standards. The facility has been achieving BOD removal efficiencies greater than 80 percent since 1992. Given the removal efficiencies for SS and BOD, the subject facility is discharging effluent that is extremely close to meeting California secondary treatment standards. In terms of mass loadings of suspended particulate matter from the subject facility to the marine environment (measured in tons), suspended solids have ranged from 42 to 74 metric tons per year (MT/yr) between 2001 and 2005. Given the small projected increases in population for the service community, loadings are not likely to increase substantially over the next decade. The annual mass emissions limit in the applicant's existing permit is for 199 MT/yr

and, as reported, the applicant's loadings to the receiving waters have consistently been well below this limit. The applicant states that "over the next five years, no downgrading of effluent quality is anticipated given the limited projected growth in population and industry in the service area." The applicant is not requesting or proposing to increase the amount of mass loadings of SS in its current application.

The southern sea otter (*Enhydra lutris neris*) and brown pelican (*Pelecanus occidentalis*) occur in the vicinity of the subject discharge. Both species are susceptible to domoic acid poisoning caused by toxic algal blooms (*Pseudo-nitzschia*), to which nutrient loadings from sewage outfalls can contribute. Hundreds of brown pelicans succumbed to domoic acid poisoning in Monterey Bay in 1991, and domoic acid poisoning was the cause of a major mortality event in sea otters in 2003. Additionally, *Toxoplasma gondii*, which has been identified as a cause of mortality in sea otters, is likely entering the marine ecosystem from terrestrial sources, as felids are to date the only known definitive hosts for the parasite. Research indicates that approximately 2.2 tons-of cat feces annually is disposed of to the municipal Morro Bay/Cayucos Wastewater Treatment Plant, and spatial analysis of pooled live and dead otter serological data revealed a large cluster of *T. gondii*-seropositive otters within a 20 km coastal region centered on the towns of Morro Bay and Cayucos. Sea otters sampled from this area were nearly twice as likely to be seropositive to *T.gondii* as expected.

EPA has proposed the following conservation measures to address the likelihood of any potential adverse effects from its proposed action to federally listed species:

1. Public outreach program to minimize the input of cat litter-box wastes into the municipal sewer systems;

2. Regular monitoring of nutrient loading from the facility's ocean outfall; and

These measures have been agreed to by both the applicant and RWQCB and will be incorporated as conditions of the joint discharge permit to be issued to the applicant by EPA and RWQCB. With regard to facility upgrade, both the Morro Bay/Cayucos Sanitary District (on May 24, 2007) and the Morro Bay City Council (on May 29, 2007) unanimously moved that the subject facility be upgraded to meet tertiary standards with the intention to move toward reclamation within the specified timeframe.

Your request for our concurrence presents us with the question of whether reissuance of a discharge permit authorizing the continued ocean disposal of municipal wastewater that does not meet federal secondary treatment standards can be deemed "not likely to adversely affect" brown pelicans and southern sea otters.

You acknowledge, and we agree, that although there may be some contribution by the Morro Bay/Cayucos Wastewater Treatment Plant to the presence of domoic acid and *T. gondii* oocysts in the marine environment, a direct link to mortalities of brown pelicans and southern sea otters

is difficult or impossible to establish using analytical methods that are currently available. You cite the opinion of an expert on domoic acid (Dr. Caron of University of Southern California) that "the subject discharge has a potential role in DA occurrences along the central coast" but that "such a link (if real) would be very difficult to prove given the spatial, temporal, biological and physical complexities associated with *Pseudo-nitzschia* blooms and domoic acid." Similarly, although you state that the Morro Bay/Cayucos Wastewater Treatment Plant is "at most, an insignificant contributor of *T. gondii* oocysts to the marine environment," you acknowledge that there are currently no analytical methods to detect the presence of oocysts in wastewater.

Although we are unable to determine the level of significance of adverse effects resulting from continued release of wastewater that has been subject to only partial secondary treatment, it is clear that advanced treatment would lead to decreased inputs of nutrients into nearshore waters, likely reducing the occurrence of toxic algal blooms. It is also likely that advanced treatment would decrease the input of *T. gondii* oocysts into the marine environment. Reduced risk of exposure to domoic acid and *T. gondii* would benefit brown pelicans and southern sea otters.

The Morro Bay and Cayucos Sanitary District has requested that EPA continue to evaluate and consider the ocean waiver reapplication, as it would be several years before the applicant could achieve advanced treatment. EPA's request for concurrence states that, "with regard to facility upgrade, both the Morro Bay/Cayucos Sanitary District (on May 24, 2007) and the Morro Bay City Council (on May 29, 2007) unanimously moved that the subject facility be upgraded to meet tertiary standards with the intention to move toward reclamation within the specified timeframe." Our understanding, therefore, is that the project includes a full upgrade to tertiary treatment by 2014. Additional conservation measures proposed by EPA include a public outreach program to minimize the input of cat litter-box wastes into the municipal sewer systems and regular monitoring of nutrient loading from the facility's ocean outfall.

As noted in the Biological Evaluation, the Morro Bay/Cayucos Sanitary District and the Morro Bay City Council have voted to upgrade its wastewater treatment facilities to tertiary treatment. Our office believes this decision has significant potential to minimize the concerns regarding possible effects on the otter. Proceeding to tertiary treatment would result in reduced loadings of a wide range of pollutants to the environment. Moreover, this level of treatment would create the opportunity for greatly reducing the quantity of wastewater discharged as the applicants develop reclaimed water reuse opportunities. The applicants' progress towards implementing their present commitment to tertiary treatment will also be a significant factor in any future Endangered Species Act analyses conducted by our office pertaining to this discharge.

We concur with your determination that the proposed project is not likely to adversely affect the brown pelican or southern sea otter. However, as we have noted in discussions with your office, we do have some concern that the Southern sea otter is located in areas in the vicinity of the subject wastewater discharge, in light of the fact that some scientific literature discusses the possibility that pollutant loading from sewage treatment plant discharges could have an effect on the otter. We acknowledge that a significant degree of scientific uncertainty exists as to the

mechanisms for potential impacts to the otter. Further, there are material gaps in available data, and in the scientific methodology for gathering such data, which, if developed, would assist in the assessment of whether and to what extent the applicant's discharge could have an effect on the otter. We recognize that the conservation measures proposed in the Biological Evaluation for this action will assist in gathering information useful in evaluating this issue, as will independent research being conducted by a number of interested parties. We intend to closely review any relevant new information in future Endangered Species Act analyses pertaining to this discharge. Consequently, further consultation, pursuant to section 7(a)(2) of the Endangered Species Act of 1973, as amended, is not required at this time. If new information is developed or the proposed action changes in any manner that may affect a listed species (or critical habitat), you must contact us immediately to determine whether additional consultation is required.

If you have any questions, please contact me at (805) 644-1766 extension 307.

Sincerely,

Steve Henry
Deputy Field Supervisor