THE CITY OF SAN DIEGO

CHRON
FILE

May 30, 2006

Dominic Gregorio
State Water Board
Division of Water Quality
P.O. Box 100
Sacramento, CA 95812-0100

John Robertus
California Water Quality Control Board
San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA 92123-4340

RE: Discharge Exception Application for ASBS #29

Dear Messrs. Gregorio and Robertus:

In response to the August 18, 2005 letter from Dominic Gregorio, attached is the City of San Diego's request for an exception for discharges of storm water into Area of Special Biological Significance #29. Please note that submittal of this application for exception does not constitute an admission by the City of San Diego that an exception is required for the City to continue its current storm water and urban runoff discharges.

If you have any questions, please feel free to call me at (619) 525-8644.

Sincerely,

Chris Zirkle
Deputy Director
Storm Water Pollution Prevention Program

Attachment: ASBS Discharge Exception Application

cc:
Scott Tulloch, Director, Metropolitan Wastewater Department (w/o attach.)
Alan Langworthy, Deputy Director, Metropolitan Wastewater Department (w/o attach.)
Tim Miller, Deputy City Attorney (w/o attach.)

City of San Diego Exception Request
Discharges Into Area of Special Biological Significance (ASBS) #29

1. Discharger's Name, Address, and Contact Information:

Chris Zirkle
City of San Diego
Metropolitan Wastewater Department
Storm Water Pollution Prevention Program
1970 B Street
San Diego, CA 92102
Phone: (619) 525-8644
Fax: (619) 525-8641
Email: czirkle@sandiego.gov

2. City of San Diego storm water discharges are regulated by San Diego Regional Water Quality Control Board Order No. 2001-01 (NPDES NO. CAS0108758), as amended by State Water Resources Control Board Order WQ 2001-15, adopted November 15, 2001.

3. The City of San Diego hereby requests coverage under an exception from the ASBS waste discharge prohibition found in Sections III.E.1 and III.H.2 of the Ocean Plan.

Signature: _____ Chris Zirkle, Deputy Director

4. Documentation showing that allowing the discharge of storm water runoff to continue will not compromise protection of ocean waters for beneficial uses, including a quantitative description of marine life near the discharge and at a reference location away from the discharge is attached as Exhibit A.

   Due to the number of variables potentially affecting water quality in the ASBS (tidal influences, currents, recreational uses, etc., the City cannot conclusively state that continued storm water runoff will not compromise protection of ocean waters for beneficial uses. However, studies from 1980 to date do not indicate a link between storm water and impacts to beneficial uses. The ASBS watershed is fully developed and has been for several decades; land uses and, assumedly storm water quality, have remained fairly static during this time.

5. Information concerning discharge volume, chemical and physical constituents, toxicity, and indicator bacteria in the runoff and in the ambient marine water of the ASBS is attached as Exhibit B. Exhibit B consists of three parts:
   - Avenida de la Playa and El. Paseo storm drains, January, 2005 and storm drain/mixing zone/offshore monitoring, February, 2006,
   - Coastal Storm Drain Monitoring, 2001-2006,
   - Dry Weather Monitoring, 2002-2005.

Discharge volumes are also described in Exhibit G.

The City's analyses of the 2005-2006 data compare measured storm water quality in the storm drain to the San Diego Basin Plan and ocean water quality in the mixing zone to the Ocean Plan. However, since Basin Plan standards apply to surface waters, measured concentrations of constituents in the storm drain which are greater than those allowed in surface waters by the Basin Plan are not referred to as nor should they be referred to as exceeding Basin Plan requirements.

The La Jolla Shores Coastal Watershed is located in the community of La Jolla, adjacent to the University of California San Diego (see Figure 1 below). It is within the City of San Diego and is within the Scripps Hydrologic Area (HA 906.30) and is underlain by the Mission Valley Groundwater Basin. This area of the coastal watershed represents the land area that drains to the ASBS. It is approximately 1,452 acres and extends from the shoreline to an elevation of approximately 800 feet at Mount Soledad. The Rose Canyon Fault transects the southern portion of the watershed. The watershed drains westerly into the San Diego-La Jolla Ecological Reserve ASBS.

Much of the northern and southern area of the watershed drains to streets and out to the beach (some drains do not go to the beach but off the bluff) at multiple locations. The central portion generally drains to a storm drain that discharges to the beach at Avenida de la Playa.

5.1 Current and Historical Data

Water quality sampling was performed by the City of San Diego and Weston Solutions, Inc. (Weston). The City of San Diego performed sampling of the offshore sample collected directly outside of the mixing zone.

Weston performed sampling at two existing sampling stations within the municipal storm sewer system (MS4). The northern sampling station, S1, is located on El Paseo Grande near its intersection with La Jolla Shores Drive, within the southeast corner of the first bend in the road. The southern sampling station, S2, is located on the northeast corner of La Jolla Shores Drive and Paseo Dorado. The locations of the sampling stations are depicted in Figure 1. At these locations, automated samplers were installed within the manholes of the MS4.

The ocean outfall/mixing zone samples were collected within the mixing zone, as defined in the California Ocean Plan, at the outfalls to the storm sewers where the storm water samples were collected. Locations of the mixing zone samples are referenced in Figure 1. The northern mixing zone sample, D1, was collected from the ocean outfall due west of the intersection of El Paseo Grande and La Jolla Shores Drive. The southern mixing zone sample, D2, was collected from the ocean outfall due west of the intersection of La Vereda and Avenida de la Playa.

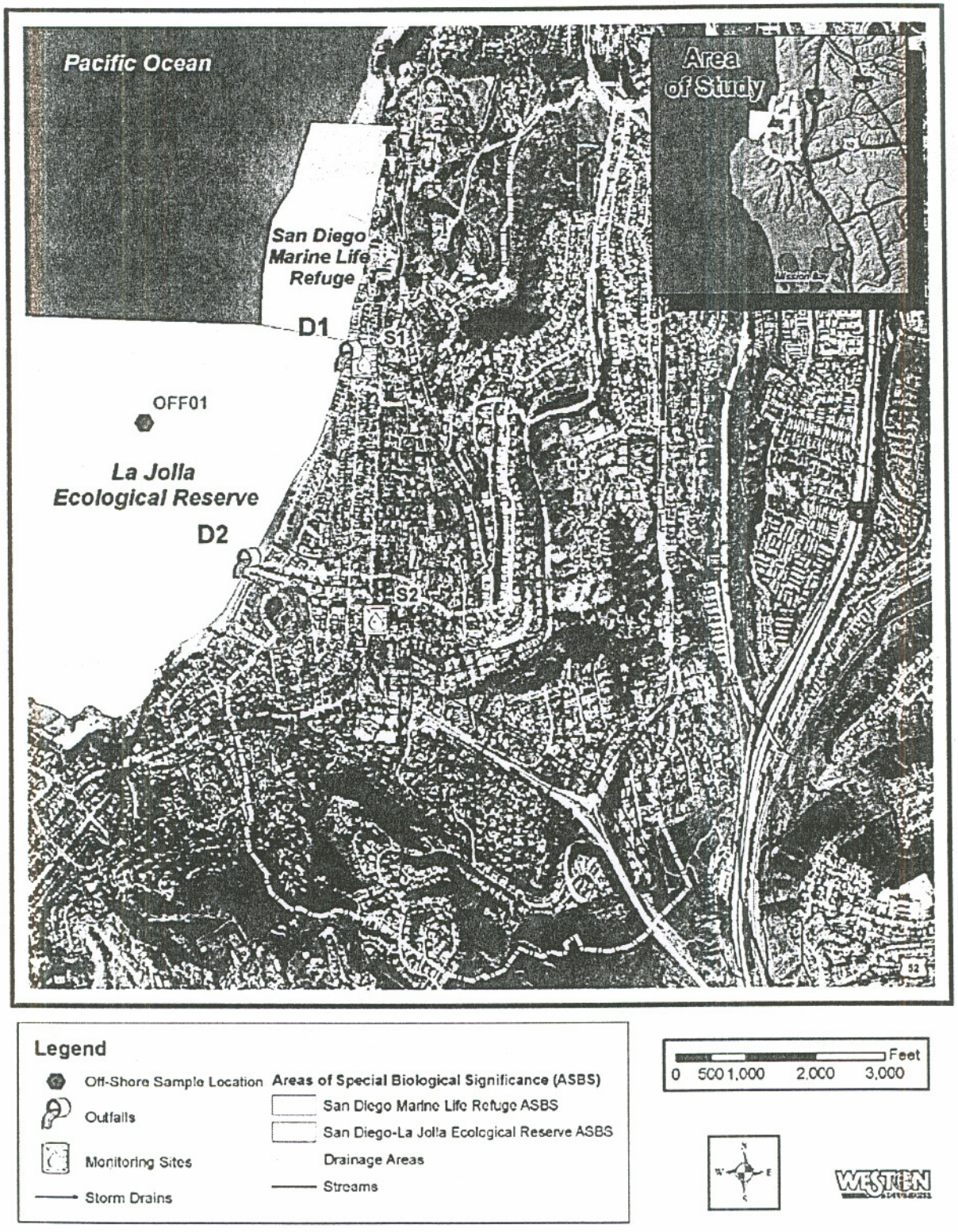

Figure 1. Station Locations and Drainage Areas

Sample events occurred at storm drain location S1 on 04/28/05 and 02/19/06. Sample events occurred at storm drain location S2 on 03/23/05, 04/28/05, and 02/19/06. Only

one sample event was conducted for the mixing zones and offshore location which occurred on 02/19/06.

5.2 Rainfall Events and Estimated Discharge Volumes

Rainfall totals in inches for each sample event and the respective discharge volumes in cubic feet are presented below (Table 1). Discharge volumes from each drainage basin that contribute to the La Jolla Ecological Reserve are provided as well as the total discharge. Discharge volumes were calculated using ArcGIS based on the percent impervious surface area and the land area.

Table 1. Rainfall and Volume Calculations for La Jolla Preserve.

Consituent	Impervious	Acres	Units	La Jolla Preserve				
				03/23/05	04/28/05	02/19/06	05-06 Season	Average Annual
Rainfall (Seaworld)	-	-	inches	0.31	0.43	0.18		11
Rainfall (Mirimar)	-	-	inches	0.24	0.57	0.34		13
Rainfall (SAN)	-	-	inches	0.53	0.51	0.19	4.6	10.5
S1 Volume	0.45	215	ft3	126,901	177,426	83,425	1,621,510	4,053,774
S2 Volume	0.36	853	ft3	401,328	561,116	263,836	5,128,081	12,820,204
Total Preserve Volume	0.37	1452	ft3	694,695	971,286	456,698	8,876,657	22,191,642

5.3 Chemical, Physical, Toxicity, and Bacterial Results

Storm drain samples were compared to freshwater water quality criteria as stated in the San Diego Basin Plan (Basin Plan) (RWQCB 1994), while ocean samples were compared to the California Ocean Plan water quality criteria (SWQCB 2005).

Sample results from the three sampling events are presented in Table 2 (see Exhibit B, Part 1). Storm drain samples that were detected above the Basin Plan water quality criteria are highlighted in yellow. However, this evaluation is provided for comparison purposes only since the two storm drain samples only drain residential areas for flood control purposes. These samples do not drain directly to any surface stream or tributary so application to the Basin Plan objectives is limited. Mixing zone and offshore samples that were detected above the Ocean Plan water quality criteria are highlighted in green. The following is a description of the sample results for the required constituents to be considered for the exception process.

Item 5a: Total Ocean Plan Metals

Mixing zone samples D1 and D2, and the offshore sample were not detected above any of the Ocean Plan metals water quality criteria during the sample event on 02/19/06 (Table 2). Storm drain sample S1 was detected above the Basin Plan water quality criteria for total copper during the 02/19/06 event and for dissolved copper during the 04/28/05 event. Storm drain sample S2 was detected above the Basin Plan water quality criteria for total copper during all three events (based on dissolved results) and for dissolved copper during the 02/19/06 event.

The City of San Diego and its project partners are currently performing a bioaccumulation testing study under the La Jolla Shores Coastal Watershed Management

Plan. The purpose of this bioaccumulation study is to assess the impact of storm water discharges on the health of the ASBSs ecosystem. Specifically, the study will assess the accumulation of metals in the tissue of mussels and sand crabs during the rainy season.

Item 5b: Polynuclear Aromatic Hydrocarbons (PAHs)

There were no detections of PAHs above the method detection limit in any of the samples collected for all three sample events. The method detection limits provided for PAHs did not allow for the evaluation of the Ocean Plan water quality criteria of 0.0088 ug/L which is based on a 30-day sample average rather than an instantaneous maximum upon which grab samples are compared to. The method detection limits were within the range of the minimum levels recommended by the Ocean Plan and were also provided in the method detection limits submitted in the quality assurance project plan that was reviewed by the SWRCB.

As mentioned above, the City of San Diego and its project partners are performing bioaccumulation testing study under the La Jolla Shores Coastal Watershed Management Plan. The purpose of this bioaccumulation study is to assess the impact of storm water discharges on the health of the ASBSs ecosystem. Specifically, the study will assess the accumulation of metals in the tissue of mussels and sand crabs during the rainy season. This study will also be used to assess the bioaccumulation of PAHs.

Item 5c: Oil and Grease

There were detections of oil and grease in the storm drain samples, the mixing zone samples, and the ocean samples for the samples collected on 02/19/06 (Table 3). However, there were no sample results detected above of the Ocean Plan water quality criteria.

Table 3. Oil and Grease Results for Samples Collected on 2/19/06.

					Paseo Grande 01		Paseo Dorado 02		Offshore
					Stormdrain-S1	Mixing Zone-D1	Stormdrain-S2	Mixing Zone-D2	
Consituent	WQO-Ocean Plan	WQO-Basin Plan	MDL	Units	02/19/06	02/19/06	02/19/06	02/19/06	2/19/06
Oil & Grease	75		1.4	mg/L	4.08	1.42	2.68	2.27	2.38

Item 5d: Ammonia Nitrogen

Ammonia as nitrogen was detected in all samples for every event (Table 4). However, no sample results were above the Ocean Plan water quality criteria. The Basin Plan water quality objective for ammonia is based on the un-ionized fraction of ammonia. Storm drain sample results for ammonia were calculated as un-ionized ammonia and were compared to the Basin Plan water quality criteria. Neither of the two storm drain sample results were above the Basin Plan criteria for un-ionized ammonia.

Table 4. Ammonia Results for Samples Collected on 2/19/06.

Consituent	WQO-Ocean Plan	WQO-Basin Plan	MDL	Units	Paseo Grande 01			Paseo Dorado 02				Offshore
					Stormdrain-S1		Mixing Zone-D1	Stormdrain-S2			Mixing Zone-D2	
					04/28/05	02/19/06	02/19/06	03/23/05	04/28/05	02/19/06	02/19/06	2/19/06
Ammonia (as N)	6		0.2	mg/L	0.89	0.6	0.3	0.94	1.1	0.6	0.3	0.3
Ammonia (Un-ionized)		0.025	-	mg/L	**	0.0019	NA	0.014	**	0.0025	NA	NA

Storm drain sample results compared to the basin plan WQO are calculated from the total ammonia result.

**pH, temp, and salinity results not available for calculation

Item 5e: Acute Toxicity Testing

Results of acute toxicity tests with the mysid shrimp *Mysidopsis bahia* demonstrated no toxicity in any concentration of any of the water samples tested. As a result, the no observable effect concentrations (NOECs) for all the water samples were equivalent to the maximum concentration of sample tested and thus ranged from 65 to 75 percent, while the lowest observable effect concentrations (LOECs) and median effective concentrations (LC_{50}s) for all samples that were greater than the maximum concentration of sample tested (i.e., >65 to 75 percent). Samples collected in the mixing zone or the offshore sample, had salinities that were above or below those used in acute toxicity tests with *M. bahia.* Consequently, prior to test initiation, salinities were adjusted according to USEPA methods for acute toxicity testing with *M. bahia.* Because of these salinity adjustments, the maximum concentration of sample that could be tested in acute tests with this species was 65 to 75 percent.

Acute toxic units (TU_as) ranged from 1.33 to 1.54, but appeared to be artificially elevated based on the complete lack of toxicity in acute tests with *M. bahia.* There are two reasons that these values do not reflect the lack of toxicity observed in acute tests. First, based on an order for the City of San Diego (2004), TU_as were calculated by dividing the NOEC for each site by 100. However, according to the USEPA, as outlined in the California Ocean Plan (SWRCB 2005), in cases where the LC_{50} can not be determined (i.e., due to low toxicity of a sample), the TU_a is typically calculated by the following equation: $TU_a = \log (100 - S)/1.7$. If the TU_as are calculated using the latter formula, the values are more related to toxicity in the samples, as described below (Table 5). Upon comparing these revised TU_as or NOECs to water quality standards outlined in the San Diego Basin Plan (RWQCB, 1994) or the California Ocean Plan, the TU_as as well as the NOECs appear to be slightly elevated above the recommended water quality standards (TU_a = 0.3). These results do not indicate toxicity in the sample but instead may be explained by the fact that the maximum sample concentration tested in this study was not 100 percent due to the need to adjust the samples to the salinities necessary for the acute toxicity tests with *M. bahia.* Thus, the maximum concentrations tested were equivalent to the NOECs indicating that there was no toxicity in any stormwater sample collected near or offshore from La Jolla storm drains.

Table 5. TU_as calculated for samples collected on using the formula: log (100 – S^1)/1.7% sample.

Sample	TU_a	NOEC (%)	LOEC (%)	Maximum Concentration of Sample Tested (%)	Water Quality Standard (TU_a)
La Jolla Prsv 01-S1	0.87	70	>70	70	NOEC<100
La Jolla Prsv 01 MZ-D1	0.82	75	>75	75	>0.3
La Jolla Prsv 02-S2	0.91	65	>65	65	NOEC<100
La Jolla Prsv 02 MZ-D2	0.82	75	>75	75	>0.3
ASBS Offshore	0.82	75	>75	75	>0.3

[1] S = percent survival in 100% sample

Item 5f: Critical Life Stage (Chronic) Toxicity Testing

Chronic toxicity tests were performed on samples collected on 02/19/06 using a mysid shrimp, purple urchin, and giant kelp. Results for the chronic toxicity tests are presented below (Table 6). Sample results from the mixing zone and the offshore sample were compared to the Ocean Plan water quality criteria of $TU_c = 1$. The storm drain sample results do not apply to the Ocean Plan water quality criteria and are provided for comparison purposes only.

Table 6. Chronic Toxicity Results for Samples Collected on 02/19/06.

Chronic Toxicity Tests						
Test	Sample	Endpoint	NOEC (%)	LOEC (%)	EC50 (%)	TUc
Macrocystis pyrifera (Giant Kelp)	La Jolla Prsv 02-S2	Germination	60	>60	>60	1.67
		Growth	<6.25	6.25	>60	>16
	La Jolla Prsv 02 MZ-D2	Germination	6.25	12.5	>100	16
		Growth	25	50	>100	4
	ASBS Offshore	Germination	100	>100	>100	1
		Growth	100	>100	>100	1
Mysidopsis bahia	La Jolla Prsv 02-S2	7-Day Survival	65	>65	>65	1.54
		Biomass	65	>65	>65	1.54
	La Jolla Prsv 02 MZ-D2	7-Day Survival	75	>75	>75	1.33
		Biomass	75	>75	>75	1.33
	ASBS Offshore	7-Day Survival	75	>75	>75	1.33
		Biomass	75	>75	>75	1.33
Strongylocentrotus purpuratus (Purple Urchin)	La Jolla Prsv 02-S2	Proportion Fertilized	50	60	>60	2
	La Jolla Prsv 02 MZ-D2	Proportion Fertilized	100	>100	>100	1
	ASBS Offshore	Proportion Fertilized	100	>100	>100	1

Value above Ocean Plan WQO (applies to mixing zone and offshore samples only)

Chronic toxicity tests using the giant kelp *Macrocystis pyrifera* (*M. pyrifera)* demonstrated no toxicity, measured as germination and growth, in samples collected offshore (ASBS Offshore). Specifically, for both germination and growth, the NOEC in was 100 percent of the sample, the LOECs and LC_{50}s were greater than 100 percent, and the calculated TU_c was 1. These values meet the water quality criteria outlined in the California Ocean Plan and demonstrate that there was no toxicity in this water sample.

In the sample collected in the storm drain (La Jolla Prsv 02-S2), slight toxicity was observed, measured as reduced germination or inhibited growth. For germination, only slight toxicity was observed; the NOEC value was 60 percent of the water sample, the LOEC and LC_{50} were greater than 60 percent, and the TU_c was 1.67, only marginally higher than the water quality standard outlined in the Ocean Plan (TU_c = 1). Slight toxicity, measured as reduced growth, was also measured in chronic tests with *M. pyrifera* for storm drain sample La Jolla Prsv 02-S2. Specifically, the NOEC was less than 6.25 percent, the LOEC was 6.25 percent, and the TU_c was greater than 16, which was above the water quality standard of TU_c = 1. However, the actual inhibition of growth was very slight as demonstrated by a LC_{50} value greater than 60 percent (i.e. the highest concentration tested due to salinity adjustments). In addition, organisms in the 60 percent samples (14.8 microns in length) were only 10 percent smaller than the controls which were 16.4 microns. These results indicate that there was only slight toxicity to *M. pyrifera* in this chronic test. However, one should note that the evaluation of chronic toxicity tests with freshwater run-off from storm drains using saltwater organisms is somewhat limiting.

Chronic tests on the mixing zone sample La Jolla Prsv 02 MZ-D2 using *M. pyrifera* also demonstrated slight toxicity, measured as reduced growth and germination. The NOEC value for germination was 25 percent sample concentration, the LOEC was 50 percent sample concentration, and the TU_c was 16, which was above the water quality standard of TU_c = 1. However, the actual inhibition of germination was only slight as demonstrated by a LC_{50} value greater than 100 percent of the sample concentration. In addition, germination in the 100 percent sample was less than 9 percent lower than germination in controls. Slightly reduced growth was also measured in chronic tests with *M. pyrifera* testing on mixing zone sample La Jolla Prsv 02 MZ-D2. Specifically, the NOEC was 25 percent, the LOEC was 50 percent, and the TU_c of 4, is above the water quality standard of TU_c = 1. However, the actual inhibition of growth was very slight as demonstrated by a LC_{50} greater than 100 percent sample concentration. In addition, growth of *M. pyrifera* in the 100 percent sample (11.5 microns in length) was less than 8 percent smaller than the controls, which were 13.6 microns in length.

Chronic toxicity tests using the mysid shrimp *Mysidopsis bahia (M. bahia)* demonstrated no toxicity, measured as mortality or reduced biomass. As a result, the NOECs for all the samples were equivalent to the maximum concentration of sample tested and thus ranged from 65 to 75 percent, while the LOECs and LC_{50}s for all samples that were greater than the maximum concentration of sample tested (i.e., >65 to 75 percent). Similar to acute toxicity tests, samples collected near the storm drain, in the mixing zone, or offshore, had salinities above or below those used in acute toxicity tests with *M.*

bahia. Consequently, salinities were adjusted according to USEPA protocols prior to test initiation as described above. Because of these salinity adjustments, the maximum concentration of sample that could be tested in acute tests with this species was 65 to 75 percent. Regardless of the lack of observed toxicity, the calculated TU_c values ranged from 1.33 to 1.54, and samples collected in the mixing zone and offshore (i.e., La Jolla 02 MZ-D2 and ASBS Offshore) were slightly elevated above water quality standards (TU_c = 1) outlined in the California Ocean Plan. Similarly, for the sample collected in the storm drain (i.e., La Jolla Prsv 02-S2), the NOEC value was <100 percent. The slight exceedances of the water quality standards are artificial due to necessary salinity adjustments and subsequent reductions in sample concentrations tested in this investigation; maximum sample concentrations were below the NOEC.

Chronic toxicity tests using the purple urchin *Strongylocentrotus purpuratus* (*S. purpuratus)* demonstrated no sublethal toxicity, measured as the proportion fertilized, in samples collected in the mixing zone (La Jolla Prsv 02 MZ-D2) or offshore (ASBS Offshore). Specifically, the NOECs for these samples were 100 percent of the sample concentrations, the LOECs and LC_{50}s were greater than 100 percent, and the calculated chronic toxic units (TU_cs) were 1. All of these values indicate no toxicity in test samples and are in compliance with water quality standards. In the sample collected in the storm drain (La Jolla Prsv 02-S2), slight sublethal toxicity was observed. The NOEC value was 50 percent of the water sample, the LOEC was 60 percent, the LC_{50} was greater than 60 percent of the sample, and the TU_c was 2, which is above the water quality standard (TU_c = 1). These values reflect a statistically lower number of cells fertilized (69.8 percent) in the 60 percent sample concentration as compared to the control (96.8 percent). Nonetheless, a 30 percent lower fertilization in the controls is indicative of a slight toxic effect. However, one should note that the evaluation of chronic toxicity tests with freshwater run-off from storm drains using saltwater organisms is somewhat limiting.

Toxicity Summary

Results of acute toxicity tests and chronic toxicity tests performed on samples collected in the La Jolla storm drains, in the mixing zone, and offshore were reviewed. No toxicity was found in acute or chronic toxicity tests with *M. bahia.* In chronic tests using *M. pyrifera* and *S. purpuratus*, some toxicity was observed in tests on La Jolla Prsv 02-S2 and La Jolla Prsv 02 MZ-D2. However, further examination of the degree of sublethal toxicity demonstrated that the samples were only slightly toxic to test organisms. Specifically, in these studies it was not possible to calculate exact LC_{50} values because none of the undiluted (i.e., most concentrated) water samples caused toxicity to a substantial proportion of the organisms tested. In addition, in these tests only sublethal effects of water samples were measured and were found to cause only an 8 to 30 percent reduction or inhibition in growth, germination, or fertilization in test samples relative to controls. Together these results indicate that at a maximum, the samples tested were only slightly toxic in chronic toxicity tests with *M. pyrifera* and *S. purpuratus*.

Item 5g: Indicator Bacteria

Bacteria densities for samples collected on 2/19/06 are presented in Table 7. Fecal coliform densities for both storm drain samples exceeded Basin Plan criteria. Enterococcus densities for both mixing zone samples were above the Ocean Plan criteria. Total coliform was detected in all samples, however densities were below applicable water quality criteria. Bacteria densities for the offshore sample were below criteria for both total and fecal coliform, and enterococcus.

Table 7. Bacteria Results for Samples Collected on 2/19/06.

Consituent	WQO-Ocean Plan	WQO-Basin Plan	MDL	Units	Paseo Grande 01		Paseo Dorado 02		Offshore
					Stormdrain-S1	Mixing Zone-D1	Stormdrain-S2	Mixing Zone-D2	
					02/19/06	02/19/06	02/19/06	02/19/06	2/19/06
Total Coliform	10,000		10	CFU or MPN/100 Ml	11000	1600E	22000	4500	10E
Fecal Coliform	400	400	10	CFU or MPN/100 Ml	3000	140E	2300	170E	<10
Enterococcus	105		10	CFU or MPN/100 Ml		240		490	<10

With respect to *enterococcus*, data has emerged to indicate that *enteroccoccus* is not necessarily a good indicator of the viruses and pathogens that actually represent a threat to public health and safety; in fact it is a better indicator of avian bacteria. Moreover, recent studies also indicate that storm water is not the sole source of indicator bacteria. Specifically, the City's "Mission Bay Source Identification Study" indicates that birds feeding on kelp are a major source of bacteria. Other studies show that indicator bacteria thrive in beach sand and are generated as a result of the decomposition of plant material. A pending City study on Pacific Beach Point pollution appears as if it will indicate that flies feeding on bird feces are also responsible for expanding the range of indicator bacteria found in the wrack line.

As you are aware, it is anticipated that the Southern California Bight 2008 Regional Monitoring Program (Bight'08) will include relatively consistent survey protocols for the relevant ASBSs within the region. The City supports this effort and suggests that the State Board not move forward with prohibiting storm water discharges or establishing exception conditions associated with monitoring until the Bight '08 protocols are discussed.

6. Characterization of the watershed:

General - The La Jolla is a hillside coastal community of the City of San Diego. The community has warm summers and mild winters. Nearly all of the annual precipitation occurs between the months of October and April. Summer rains can occur, but are infrequent. The La Jolla receives an average of about 11 inches of rainfall per year.

Population - Within the ASBS watershed area, there are approximately 1,640 households based on the 2000 Census. It is estimated that the current resident population is 6,060 people in the watershed (Figure 6-1). During the summer months, visitors and tourists significantly increase the amount of people in the community.

Impervious Surfaces - The La Jolla Ecological Reserve drainage area impervious surface percentage is estimated to be about 43 percent (Figure 6-2). Because the watershed is built out, it is anticipated that the existing percentage of impervious surface will not significantly change in the future.

Land Use - The ASBS #29 watershed is fully developed and has been for several decades; land uses and, assumedly storm water quality, have remained fairly static during this time. There are approximately 1452 acres under in the ASBS drainage area. Of this total, 80 percent is urbanized area and 20 percent is undeveloped or dedicated open space. Land use designations are shown on Figure 6-3. Land use of the watershed area is predominantly residential (55%) and transportation (19%). There are no industrial businesses or facilities within the watershed.

Application Rates of pesticides an herbicides in public rights of way, including parks and street rights of way -

i. Rodeo and Roundup applied on an as-needed, ad hoc basis
ii. Rodeo and Roundup applied prior to street resurfacing

7. Current treatment processes:

Current treatment processes, pollution controls, and/or best management practices used City-wide can be found in the FY 2005 Annual Report attached as Exhibit C. City-wide practices such as street sweeping, storm drain cleaning, and education/outreach efforts are implemented the ASBS watershed. Five of the 17 ASBS discharge points are currently outfitted with low-flow diversion devices, and additional diversions are planned as indicated in the Planning Report Memo attached as Exhibit D. The City is currently planning specific ASBS water quality strategies with in conjunction with Coastkeeper and the Scripps Institution of Oceanography as shown in the Prop 50 (awarded) and "Consolidated Grant" (application being reviewed) grant applications attached as Exhibits E and F. This effort will result in an analysis of appropriate BMPs for the watershed.

8. Analyses of alternatives:

An analysis of alternatives, including economic impacts, to the discharge can be found in Exhibit G, a report from Dexter Wilson and Associates, "Options to Prohibit Storm Water Waste Discharge to San Diego-La Jolla Ecological Reserve", dated May 12, 2005. Environmental impacts from the alternatives would be similar to those associated with a treatment plant/pipeline project of similar magnitude, see Exhibit H, an Environmental Impact Report prepared for the North City Water Reclamation Plant. Hydrology and Erosion issues would also have to be evaluated as being potentially significant for alternatives which include a discharge into a natural drainage. Additionally, marine

biological issues would have to be evaluated for the alternative which would discharge storm water offshore beyond the ASBS.

9. Compliance History:

The compliance history for drainages into the ASBS is described in Exhibit I, "Sanitary Sewer Overflow Summary" and Exhibit J, a summary of Code Compliance investigations within the ASBS watershed.

10. Public Interest:

Evidence that the public interest will be served by granting the exception is described in the responses to items 4 and 5, the fact that the State Board Surface Water Regulatory Branch is considering de-listing the coastline fronting the ASBS for bacteria, the infrastructure costs described in the Dexter Wilson report attached as Exhibit H, the low flow diversions in place and planned, and the willingness of the City to conduct additional monitoring to determine exactly what, if any, impacts storm water is having on the ASBS.