

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION**

**ADDENDUM NO. 1
TO
ORDER NO. 99-04**

**WASTE DISCHARGE REQUIREMENTS
FOR THE
ZOOLOGICAL SOCIETY OF SAN DIEGO
SAN DIEGO WILD ANIMAL PARK
SAN DIEGO COUNTY**

The California Regional Water Quality Control Board, San Diego Region (hereinafter Regional Board), finds that:

1. On March 10, 1999, this Regional Board adopted Order No. 99-04, *Waste Discharge Requirements for the Zoological Society of San Diego, San Diego Wild Animal Park, San Diego County*. Order No. 99-04 established requirements for the discharge of up to 0.150 million gallons per day (MGD).
2. Discharge and Operation Specification B.2 of Order No. 99-04 sets forth conditions which must be met before the San Diego Wild Animal Park (WAP) can initiate a wastewater discharge greater than 0.044 MGD. These include 1) submission of a report from a registered engineer certifying the adequacy of the treatment and disposal facilities to comply with Order No. 99-04 for the full design flow of 0.150 MGD, 2) notification to the Regional Board that the new facilities have been completed as specified in the certification report, and 3) receipt of notice from the Regional Board that the discharge can be initiated. Furthermore, the State Department of Health Services (State DHS) has asked that the Regional Board not issue waste discharge requirements for the increased flow capacity prior to their approval of the project in accordance with California Code of Regulations, Title 22, Chapter 3.
3. The certification report referenced in Item 1) of Finding No. 2 above was submitted to the Regional Board on September 20, 2000. The cover letter to this report, dated September 19, 2000 indicated that the new treatment facilities would be completed by November 7, 2000. By letter dated January 30, 2002, the WAP reported that the new sewage treatment facility began operation in April 2001. These letters satisfy the notification requirement referenced in Item 2) of Finding No. 2. This addendum satisfies Item 3) by allowing the WAP to initiate the discharge in accordance with the terms and conditions of Order No. 99-04, as amended by this addendum.

4. By letter dated December 4, 2000, the State DHS approved the Title 22 Engineering Report that allows the WAP to produce a secondary-23 recycled water to serve recycled water to restricted use sites at the WAP, subject to the conditions outlined in the December 4 letter. As part of the conditions, the WAP is required to demonstrate compliance with cross-connection requirements for recycled water distribution systems. In a letter dated November 22, 2002, State DHS informed the Regional Board that the WAP is working with the County of San Diego, Department of Health Services to complete the necessary cross-connection testing. The November 22 letter also indicated that the testing is near completion and that the State DHS had no objection to the Regional Board's approval of the increase in effluent flow at the WAP to 0.150 MGD.
5. The upgraded treatment plant consists of a headworks facility, a flow equalization basin, extended aeration and sedimentation basins, a chlorine contact tank, a sludge holding tank, and sludge drying beds.
6. The Regional Board has notified the WAP and all known interested parties of its intent to amend the waste discharge requirements of Order No. 99-04.
7. The Regional Board in a public meeting has heard and considered all comments pertaining to the terms and conditions of this addendum.

IT IS HEREBY ORDERED, That

1. The discharge of disinfected secondary-23 recycled water from the wastewater treatment plant for restricted use at the San Diego Wild Animal Park (WAP) exhibits up to a maximum peak daily flow rate of 0.150 million gallons per day (MGD) can be initiated.
2. Effluent limitations in Discharge and Operation Specifications B.4 shall be replaced as follows:

"4. The effluent from the wastewater treatment plant shall be discharged to the onsite storage pond and used for irrigation within the animal exhibit area. The concentrations of constituents in the effluent shall not exceed the following limits:

Constituent	Unit	Monthly Average ¹	Daily Maximum ²
Biochemical Oxygen Demand (BOD ₅ @ 20°C)	mg/L	30	45
Total Suspended Solids	mg/L	30	45
Total Dissolved Solids	mg/L	--	1,000
Chloride	mg/L	--	400
Total Coliform	MPN/100 ml	*	*
pH	Within the limits of 6.0 to 9.0 at all times		

¹The monthly average limitation shall apply to the arithmetic mean of the results of all samples collected during any 30-day consecutive calendar month period.

²The daily maximum effluent limitation shall apply to the results of a single composite or grab sample.

*A total coliform bacteria MPN of 23/100 ml based on the median of the results for the last seven days. Effluent shall not exceed a total coliform bacteria MPN of 240/100 ml in more than one sample in any 30-day period."

3. Recycled Water Use Requirements E.5 shall be replaced as follows:

"5. Irrigation with, or impoundment of, non-disinfected secondary recycled water shall remain on site at the SDWAP. The plant shall be equipped with automatic shut down capability to prevent inadequately disinfected secondary effluent from discharging into the recycled water storage pond. The inadequately disinfected secondary effluent at the chlorine contact tank will be re-disinfected with a higher dose and re-sampled prior to diversion into the recycled water pond."

4. Recycled Water Use Requirements E.6 shall be replaced as follows:

"6. Spray irrigation with recycled water shall not take place within 100 feet of the fence line enclosing the animal exhibit, or public areas."

5. Recycled Water Use Requirements E.8 shall be replaced as follows:

"8. All recycled water piping and appurtenances in new installations and appurtenances in retrofit installations shall be colored purple or distinctively wrapped with purple tape in accordance with Chapter 5 Section 116815 of the California Health and Safety Code."

6. Recycled Water Use Requirements E.9 shall be replaced as follows:

"9. Reuse site shut down tests and inspections shall be monitored by the County of San Diego Department of Environmental Health (County DEH) or the State Department of Health Services (State DHS). The inspections and testing shall be performed by a cross connection control specialist certified by the California-Nevada section of the American Water Works Association or an organization with equivalent certification requirements. A written report documenting the result of the inspection or testing for the prior year shall be submitted to the County DEH or the State DHS within 30 days following completion of the inspection or testing."

7. Recycled Water Use Requirements E.10 shall be replaced as follows:

“10. Any backflow prevention device installed to protect the public water system shall be inspected and maintained in accordance with Section 7605 of Title 17, California Code of Regulations.”

8. The following shall be added to Recycled Water Use Requirements as E.11:

“11. The discharger shall notify the State DHS and the County DEH of any incidence of recycled water backflow into the potable water system as soon as possible, but in no case later than 24 hours of finding of the incident.”

9. Reporting Requirements G.5.c shall be replaced as follows:

“c. Any treatment plant upset which causes the effluent limitations of this Order to be exceeded including, but not limited to, the following:

- (1) Failure of chlorination equipment or loss of detectable chlorine residual.
- (2) Effluent total coliform bacteria MPN greater than 1600/100 ml in any one sample.
- (3) Effluent total coliform bacteria MPN greater than 240/100 ml in any two consecutive samples in any 30-day period.”

10. Section B, Sewage Treatment Plant Effluent, of Monitoring and Reporting Program No. 99-04 shall be replaced by the following:

“B. Sewage Treatment Plant Effluent

The following shall constitute the effluent monitoring program for the disposal of wastewater by the Zoological Society of San Diego's Wild Animal Park. Effluent samples shall be taken at the end of the sewage treatment process prior to discharge to the storage pond.

Parameter	Unit	Type of Sample	Sampling Frequency	Reporting Frequency
Flowrate	MGD	Continuous	Continuous	Monthly ¹
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	Grab	Quarterly ²	Quarterly
Total Suspended Solids	mg/L	Grab	Quarterly ²	Quarterly
Total Coliform	MPN/100 ml	Grab	*	Monthly ³
Chlorine Residual ⁴	mg/L	Continuous	Continuous	Monthly

Parameter	Unit	Type of Sample	Sampling Frequency	Reporting Frequency
pH	--	Grab	Monthly ²	Monthly
Total Dissolved Solids	mg/L	Grab	Annual ²	Annual
Chloride	mg/L	Grab	Annual ²	Annual
Sulfate	mg/L	Grab	Annual ²	Annual
Nitrate (NO ₃)	mg/L	Grab	Annual ²	Annual
Iron	mg/L	Grab	Annual ²	Annual
Manganese	mg/L	Grab	Annual ²	Annual

1 Report the total daily flow, the total monthly flow, and the daily average flow for the reporting period.

2 The discharger shall increase the sampling frequency from monthly to weekly, from quarterly to monthly and from annually to quarterly for any noted constituent that exceeds the limit specified by Discharge Specification B.4 of Order No. 99-04. Weekly, monthly or quarterly monitoring shall continue until the discharger achieves compliance with the limitations for three consecutive periods. After compliance is achieved, the discharger shall resume sampling at the specified frequency. Weekly is defined as a calendar week (Sunday through Saturday). Monthly is defined as a calendar month. Quarterly is defined as three consecutive calendar months beginning at the first of the year. Annual is defined as a calendar year.

3 Results of daily total coliform bacteria monitoring, running 7-day median determinations, and maximum daily coliform readings for the current month and the previous 11 months shall be reported monthly.

4 Chlorine residual (mg/L) shall be recorded by a continuous recording meter and monitored continuously at a point following disinfection. Minimum daily chlorine residual shall be reported monthly.

* Samples for total coliform bacteria shall be collected at least daily from the disinfected effluent and at a time when wastewater characteristics are most demanding on the treatment facilities and disinfection procedures.

Notes: MGD = Million gallons per day
 MPN/100ml = Most Probable Number per 100 milliliters
 mg/L = milligrams per liter

11. EFFECTIVE DATE

This Addendum becomes effective on the date of adoption by the Regional Board.

I, John H. Robertus, Executive Officer, do hereby certify the foregoing is a full, true and correct copy of an Addendum adopted by the California Regional Water Quality Control Board, San Diego Region, on February 5, 2003.



JOHN H. ROBERTUS
Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

ORDER NO. 99-04

**WASTE DISCHARGE REQUIREMENTS
for the
ZOOLOGICAL SOCIETY OF SAN DIEGO
SAN DIEGO WILD ANIMAL PARK
SAN DIEGO COUNTY**

The California Regional Water Quality Control Board, San Diego Region (hereinafter Regional Board), finds that:

1. This Order regulates the discharge of pollutants from waste management operations at the San Diego Wild Animal Park (WAP) and establishes requirements to reduce or prevent pollutants in storm water discharges through the implementation of Best Available Technology economically achievable (BAT) and Best Conventional Pollutant Control Technology (BCT). Compliance with the terms and conditions of this Order constitutes compliance with BAT/BCT requirements and with requirements to achieve water quality standards.
2. Order No. 93-26 as amended by Addendum No. 1 established waste discharge requirements for the Zoological Society of San Diego for the discharge of domestic and non-domestic wastewater
3. The Zoological Society of San Diego (hereinafter discharger) submitted reports of waste discharge dated June 1, 1998 and July 31, 1998 describing current and proposing new waste management facilities and water quality control measures at the WAP.
4. The WAP is located in the San Pasqual Hydrologic Area (903.30) of the San Dieguito Hydrologic Unit (903.00). (Attachment No. 1 to this Order contains a facility site map)
5. The discharger will treat, store and discharge up to 150,000 gallons per day of domestic wastewater. The treatment plant consists of a headworks facility, a flow equalization basin, extended aeration and sedimentation basins, a chlorine contact tank and a sludge holding tank. Chlorinated effluent from the plant is stored in in a holding pond and used with groundwater for irrigation within the animal exhibits. The disposal sites have limited public access.
6. Wastewater generated, together with precipitation on and drainage through a bird holding facility, is managed with a solids settling tank and leach field..
7. Approximately 22,000 tons of animal manure and bedding material generated in the animal exhibits per year is stored on a site leased by the discharger, composted and then

- used as fertilizer by a local farmer. The discharger removes all stored material by November 1 of each year.
8. Green waste generated at the Park is collected, stockpiled and used for mulch on the Park premises. The discharger removes all green waste material from the storage site by November 1 of each year.
 9. The implementation of a waste management plan for the green waste storage site and manure storage site, prepared by the United States Department of Agriculture, Natural Resources Conservation Service and contained in the July 31, 1998 report of waste discharge, will provide best conventional pollutant control measures for these sites.
 10. Drainage Subarea 1 (see Attachment 1) consists primarily of an unpaved parking lot. Sediment and litter are potential pollutants in runoff from this subarea. The discharger collects the litter and periodically regrades the lot.
 11. Drainage Subarea 2 (see Attachment 1) consists primarily of a paved parking lot. Grease and oil and litter are potential pollutants in runoff from this subarea. The parking lot is maintained on a daily basis.
 12. Drainage Subarea 3 (see Attachment 1) consists of the Village portion of the park and the East Africa exhibit. Within the animal exhibits, manure and bedding material is collected on a daily basis. Runoff flows to the East Africa Pond, which when full overflows to a runoff lagoon. The East Africa Pond and runoff lagoon is maintained so that it does not have capacity to retain runoff from a 25-year/24-hour storm event.
 13. Drainage Subarea 4 (see Attachment 1) includes the portion of the park tributary to the South Africa Pond, which is maintained so that it does not have capacity to retain runoff from a 25-year/24-hour storm event.
 14. Potential pollutants in storm water runoff from areas where animal manure is generated or stockpiled include oxygen-demanding substances, nitrogen, phosphorus, organic solids, bacteria, viruses and other microorganisms.
 15. Potential pollutants in storm water runoff from green waste processing sites include oxygen-demanding substances, nitrogen, phosphorus and organic solids.
 16. The activities at the WAP regulated by this Order are not subject at this time to National Pollution Discharge System General Permit No. CAS000001, *Waste Discharge Requirements for Discharges of Storm Water Associated With Industrial Activities Excluding Construction Activities*.
 17. Best Management Practices (BMPs) to reduce or prevent pollutants associated with industrial activity in storm water discharges and authorized non-storm water discharges

are appropriate where numeric effluent limitations are infeasible, and the implementation of BMPs is adequate to achieve compliance with BAT/BCT and with water quality standards as specified in the *Water Quality Control Plan for the San Diego Basin (9)*.

18. The Regional Board, in establishing the requirements contained herein, considered factors including, but not limited to, the following:
 - a. Past, present and probable future beneficial uses of water:
 - b. Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto;
 - c. Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area.
 - d. Economic considerations; and
 - e. The need for developing housing within the region; and
 - f. The need to develop and use recycled water.
19. The Regional Board has considered all water resource related environmental factors associated with the proposed discharge of waste.
20. In accordance with the *Memorandum Of Agreement Between The Department Of Health Services And The State Water Resources Control Board On Use Of Reclaimed Water*, this Order incorporates any conditions of approval submitted as part of the State Department of Health Services' recommendations into water reclamation requirements proposed for adoption by this Regional Board.
21. This Regional Board has notified the discharger and all known interested parties of the intent to prescribe waste discharge requirements for the proposed discharge.
22. The Regional Board in a public meeting heard and considered all comments pertaining to the proposed discharge.

A Negative Declaration was certified by this Regional Board for the WAP waste management facilities on March 10, 1999 in accordance with Title 14, California Administrative Code, Chapter 3, Article 18, Section 15261.

IT IS HEREBY ORDERED, that the Zoological Society of San Diego (hereinafter discharger), in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, shall comply with the following:

A. PROHIBITIONS

1. Direct or indirect discharges other than storm water (non-storm water) from the San Diego Wild Animal Park to waters of the United States are prohibited. Prohibited non-storm water discharges must be either eliminated or permitted by a NPDES permit.
2. Storm water discharges and authorized non-storm water discharges shall not cause or threaten to cause pollution, contamination, or nuisance as defined by Section 13050 of the California Water Code.
3. Discharges of wastes to lands which have not been specifically described in the report of waste discharge and for which valid waste discharge requirements are not in force are prohibited.
4. The discharge of any radiological, chemical or biological warfare agent, or high-level radiological waste is prohibited.
5. The discharge of waste shall not:
 - a. Cause the occurrence of coliform or pathogenic organisms in waters pumped from the basin;
 - b. Cause the occurrence of objectionable tastes and odors in water pumped from the basin;
 - c. Cause waters pumped from the basin to foam;
 - d. Cause the presence of toxic materials in waters pumped from the basin;
 - e. Cause the pH of waters pumped from the basin to fall below 6.0 or rise above 9.0;
 - f. Cause this Regional Board's objectives for the ground or surface waters of the San Pasqual Hydrographic Area as established in the Basin Plan, to be exceeded;
 - g. Cause odors, septicity, mosquitos or other vectors, weed growth or other nuisance conditions in any inland watercourse;
 - h. Cause a surface flow recognizable as sewage in any inland watercourse; or

- i. Cause a pollution, contamination or nuisance or adversely affect beneficial uses of the ground or surface waters of the San Pasqual Hydrographic Area as established in the Basin Plan.
7. The discharge of waste in a manner other than as described in the findings of this Order is prohibited unless the discharger obtains revised waste discharge requirements that provide for the proposed change.

B. DISCHARGE AND OPERATION SPECIFICATIONS - WASTEWATER TREATMENT PLANT

- 1 The discharge from the wastewater treatment plant shall not exceed a peak daily flow rate of 0.150 million gallons per day (MGD).
- 2 All new wastewater treatment and disposal facilities shall be completely constructed and operable prior to the initiation of discharge greater than 0.044 MGD. The completed facilities shall have adequate capacity for the full design flow of 0.150 MGD. A report from a registered engineer certifying the adequacy of the treatment and disposal facilities to comply with this Order shall be submitted prior to initiation of a discharge greater than 0.044 MGD. The registered engineer shall affix his signature and engineering license number to the report. Discharges greater than 0.044 MGD shall not be initiated until:
 - a. The certification report has been received by this Regional Board.
 - b. The discharger has notified this Regional Board that the new facilities have been completed as specified in the certification report.
 - c. The discharger has received notification from this Regional Board that the discharge can be initiated.
3. The operation of the wastewater treatment plant shall not cause odors, vectors, and other nuisances of sewage or sewage sludge origin beyond the limits of the WAP.
4. The effluent from the wastewater treatment plant shall be discharged to the onsite storage pond and used for irrigation within the animal exhibit area. The concentrations of constituents in the effluent shall not exceed the following limits:

Constituent	Unit	Monthly Average ¹	Daily Maximum ²
Biochemical Oxygen Demand (BOD ₅ @ 20°C)	mg/L	30	45
Total Suspended Solids	mg/L	30	45
pH	Within the limits of 6.0 to 9.0 at all times		
Total Dissolved Solids	mg/L	--	1000
Chloride	mg/L	--	400

1. The monthly average limitation shall apply to the arithmetic mean of the results of all samples collected during any 30 day consecutive calendar day period

2. The daily maximum effluent limitation shall apply to the results of a single composite or grab sample.

5. Collected screenings, sludges, other solids removed from liquid wastes shall be disposed in a manner approved by this Regional Board. Management of all solids and sludge must comply with all applicable requirements of 40 CFR Parts 257, 258, 501 and 503; CWA Part 405(d), and Title 27, CCR, including all monitoring, record keeping and reporting requirements. Since the State of California, hence the State and Regional Boards, has not been delegated the authority by the USEPA to implement the sludge program, enforcement of sludge requirements of CFR Part 503 is under USEPA's jurisdiction. Once sludge leaves a facility, it is subject to all applicable local, state and federal laws and regulations.
6. The wastewater treatment, containment and disposal facilities shall be protected against 100-year peak stream flows as defined by the San Diego County flood control agency.
7. The wastewater treatment, containment and disposal facilities shall be protected against erosion, overland runoff, and other impacts resulting from a 100-year frequency 24-hour storm.
8. The discharger's wastewater treatment facilities shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to Chapter 3, Subchapter 14, Title 23 of the California Code of Regulations.

C. DISCHARGE AND OPERATION SPECIFICATIONS - BIRD HOLDING FACILITY

1. The discharger shall submit a report prior to the initiation of discharge that demonstrates that the siting, design and operation of the subsurface disposal system complies with all appropriate criteria of the "Guidelines for New Community and Industrial Sewerage Facilities" specified by the Water Quality Control Plan, San Diego Basin (Basin Plan).

D. DISCHARGE AND OPERATION SPECIFICATIONS - ANIMAL EXHIBIT AREAS, MANURE AND GREEN WASTE STORAGE AND PROCESSING SITES

1. All precipitation and surface drainage from outside the manure and green waste treatment or storage areas, including that collected from roofed areas, and runoff from tributary areas resulting from a 25-year, 24-hour storm shall be diverted away from the manure/green waste management areas.
2. The discharger shall retain all precipitation on and surface drainage through the manure and green waste treatment and storage areas resulting from a 25-year, 24-hour storm.
3. The manure and green waste treatment and storage areas shall be protected against 100-year peak stream flows as defined by the San Diego County flood control agency.
4. Manure and green waste stockpiles shall be managed to minimize infiltration of water to underlying soils.
5. The discharger shall implement the best management practices described in the report of waste discharge dated July 31, 1998 for reducing and preventing pollutants in storm water runoff associated with activities at the WAP or proposed alternative measures that provide equivalent water quality protection.
6. The discharger shall develop and implement a plan to manage the water levels and water quality in the East Africa Pond/runoff lagoon and the South Africa Pond in a manner that minimizes the discharge of nutrients and other pollutants to the waters of the United States.

E. RECYCLED WATER USE REQUIREMENTS

1. The discharger shall implement measures for the protection of workers and the public from the potential health hazards of recycled water use. At a minimum, the measures shall be consistent with the State Department of Health Services (DOHS) *Guidelines for Use of Recycled Water* and *Guidelines for Use of Recycled Water for Construction Purposes*.
2. The discharger shall implement any measures deemed necessary by the State Department of Health Services or San Diego Department of Environmental Health for the protection of public health, such as compliance with the American Water Works Association (AWWA) California/Nevada Section, *Guidelines for the Distribution of Non-Potable Water* and *Guidelines for Retrofitting To Recycled Water* or alternate measures that are acceptable to DOHS.

3. The discharger shall designate a recycled water supervisor who is responsible for the recycled water system. Specific responsibilities of the recycled water supervisor include the proper installation, operation, and maintenance of the irrigation system; compliance of the project with the measures to prevent potential hazards and the preservation of the recycled water distribution system plans in "as built" form.
4. Irrigation with, or impoundment of, disinfected secondary-2.2 or disinfected secondary -23 recycled water shall not take place within 100 feet of any domestic water supply well.
5. Irrigation with, or impoundment of, undisinfected secondary recycled water shall not take place within 150 feet of any domestic water supply well.
6. Spray irrigation with recycled water shall not take place within 100 feet of the fence line enclosing the animal exhibit.
7. The recycled water piping system shall not include any hose bibs. Quick couplers that are different from that used on the potable water system may be used.
8. All recycled water piping and appurtenances in new installations and appurtenances in retrofit installations shall be colored purple or distinctively wrapped with purple tape in accordance with Chapter 7.9, section 4049.54 of the California Health and Safety Code.
9. Reuse site shut down tests and inspections shall be monitored by the County of San Diego Department of Environmental Health or the State Department of Health Services.
10. Any backflow prevention device installed to protect the public water system shall be inspected and maintained in accordance with Section 7605 of Title 17.

F. STANDARD PROVISIONS

1. The discharger must comply with all conditions of this Order. Any noncompliance with this Order constitutes a violation of the California Water Code and is grounds for (a) enforcement action; (b) termination, revocation and reissuance, or modification of this Order; or (c) denial of a report of waste discharge in application for new or revised waste discharge requirements.
2. In an enforcement action, it shall not be a defense for the discharger that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with this Order. Upon reduction, loss, or failure of the treatment

facility, the discharger shall, to the extent necessary to maintain compliance with this Order, control production or all discharges, or both, until the facility is restored or an alternative method of treatment is provided. This provision applies for example, when the primary source of power of the treatment facility fails, is reduced, or is lost.

3. The discharger shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this Order, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the noncompliance.
4. The discharger shall, at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the discharger to achieve compliance with conditions of this Order. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls including appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this Order.
5. This Order may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following:
 - a. Violation of any terms or conditions of this Order; or
 - b. Obtaining this Order by misrepresentation or failure to disclose fully all relevant facts; or
 - c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

The filing of a request by the discharger for the modification, revocation and reissuance, or termination of this Order, or notification of planned changes or anticipated noncompliance does not stay any condition of this Order.

6. This Order is not transferable to any person except after notice to this Regional Board. The discharger shall submit this notice in writing at least 30 days in advance of any proposed transfer. The notice must include a written agreement between the existing and new discharger containing a specific date for the transfer of this Order's responsibility and coverage between the current discharger and the new discharger. This agreement shall include an acknowledgment that the existing discharger is liable for violations up to the transfer date and that the new discharger is liable from the transfer date on. The Regional Board may require modification or revocation

and reissuance of this Order to change the name of the discharger and incorporate other requirements as may be necessary under the California Water Code.

7. The discharger shall allow the Regional Board, or an authorized representative upon the presentation of credentials and other documents as may be required by law, to:
 - a. Enter upon the discharger's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Order;
 - b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order;
 - c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and
 - d. Sample or monitor at reasonable times, for the purposes of assuring compliance with this Order or as otherwise authorized by the California Water Code, any substances or parameters at any location.
8. A copy of this Order shall be maintained at the San Diego Wild Animal Park and shall be available to operating personnel at all times.
9. The provisions of this Order are severable, and if any provision of this Order, or the application of any provision of this Order to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this Order, shall not be affected thereby.
10. Except for a discharge which is in compliance with these waste discharge requirements, any person who, without regard to intent or negligence, causes or permits any hazardous substance or sewage to be discharged in or on any waters of the State, shall as soon as (a) that person has knowledge of the discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify the Director of Environmental Health Services, County of San Diego in accordance with California Health and Safety Code Section 5411.5 and the Office of Emergency Services of the discharge in accordance with the spill reporting provision of the State toxic disaster contingency plan adopted pursuant to Article 3.7 (commencing with Section 8574.7) of Chapter 7 of Division 1 of Title 2 of the Government Code, and immediately notify the State Board or the appropriate Regional Board of the discharge. This provision does not require reporting of any discharge of less than a reportable quantity as provided for under subdivisions (f) and (g) of Section 13271 of the Water

Code unless the Recycled Water Agency is in violation of a prohibition in the applicable Water Quality Control Plan.

11. Except for a discharge which is in compliance with these waste discharge requirements, any person who without regard to intent or negligence, causes or permits any oil or petroleum product to be discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, shall, as soon as (a) such person has knowledge of the discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify the Office of Emergency Services of the discharge in accordance with the spill reporting provision of the State oil spill contingency plan adopted pursuant to Article 3.5 (commencing with Section 8574.1) of Chapter 7 of Division 1 of Title 2 of the Government Code. This requirement does not require reporting of any discharge of less than 42 gallons unless the discharge is also required to be reported pursuant to Section 311 of the Clean Water Act or the discharge is in violation of a prohibition in the applicable Water Quality Control Plan.

G. REPORTING REQUIREMENTS

1. The discharger shall file a new Report of Waste Discharge at least 120 days prior to the following:
 - a. Addition of a major industrial waste discharge to a discharge of essentially domestic sewage, or the addition of a new process or product by an industrial facility resulting in a change in the character of the wastes.
 - b. Significant change in the treatment or disposal method (e.g., change in the method of treatment which would significantly alter the nature of the waste.)
 - c. Change in the disposal area from that described in the findings of this Order.
 - d. Increase in flow beyond that specified in this Order.
 - e. Other circumstances which result in a material change in character, amount, or location of the waste discharge.
 - f. Any planned change in the regulated facility or activity which may result in noncompliance with this Order.
2. The discharger shall furnish to this Regional Board, within a reasonable time, any information which the Regional Board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order. The

discharger shall also furnish to the Regional Board, upon request, copies of records required to be kept by this Order.

3. The discharger shall comply with the attached Monitoring and Reporting Program No. 99-04, and further revisions thereto as specified by the Regional Board. Monitoring results shall be reported at the intervals specified in Monitoring and Reporting Program No. 99-04.
4. Where the discharger becomes aware that it failed to submit any relevant facts in a Report of Waste Discharge or submitted incorrect information in a Report of Waste Discharge or in any report to the Regional Board, it shall promptly submit such facts or information.
5. The discharger shall report any noncompliance which may endanger health or the environment. Any such information shall be provided orally to this Regional Board within 24 hours from the time the discharger becomes aware of the circumstances. A written submission shall also be provided within five days of the time the discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected; the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The Regional Board, or an authorized representative, may waive the written report on a case-by-case basis if the oral report has been received within 24 hours. The following occurrence(s) must be reported to the Regional Board within 24 hours:
 - a. Any bypass from any portion of the treatment facility.
 - b. Any discharge of treated or untreated wastewater resulting from sewer line breaks, obstruction, surcharge or any other circumstances.
 - c. Any treatment plant upset which causes the effluent limitations of this Order to be exceeded.
6. If a need for a discharge bypass is known in advance, the Recycled Water Agency shall submit prior notice and, if at all possible, such notice shall be submitted at least 10 days prior to the date of the bypass. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility to other than a sewer system
7. The discharger shall retain records of all monitoring information, including all calibration and maintenance records, copies of all reports required by this Order, and records of all data used to complete the application for this Order. Records shall be maintained for a minimum of five years from the date of the sample,

measurement, report, or application. This period may be extended during the course of any unresolved litigation regarding this discharge or when requested by the Regional Board.

8. All applications, reports, or information submitted to the Regional Board shall be signed and certified as follows:

a. The Report of Waste Discharge shall be signed as follows:

- (1) For a corporation - by a principal executive officer of at least the level of vice-president.
- (2) For a partnership or sole proprietorship - by a general partner or the proprietor, respectively.
- (3) For a municipality, state, federal or other public agency - by either a principal executive officer or ranking elected official.

b. All other reports required by this Order and other information required by the Regional Board shall be signed by a person designated in paragraph (a) of this provision, or by a duly authorized representative of that person. An individual is a duly authorized representative only if:

- (1) The authorization is made in writing by a person described in paragraph (a) of this provision;
- (2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity; and
- (3) The written authorization is submitted to the Regional Board.

c. Any person signing a document under this Section shall make the following certification:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

9. The discharger shall submit reports required under this Order, or other information required by the Regional Board, to:

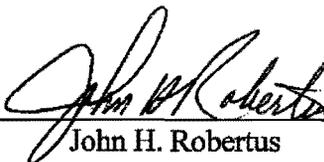
California Regional Water Quality Control Board, San Diego Region
9771 Clairemont Mesa Blvd., Suite B
San Diego, CA 92124

F. NOTIFICATIONS

1. California Water Code Section 13263(g) states:

"No discharge of waste into waters of the state, whether or not such discharge is made pursuant to waste discharge requirements shall create a vested right to continue such discharge. All discharges of waste into waters of the state are privileges, not rights."
2. These requirements have not been officially reviewed by the United States Environmental Protection Agency and are not issued pursuant to Section 402 of the Clean Water Act.
3. The California Water Code provides that any person who intentionally or negligently violates any waste discharge requirements issued, reissued, or amended by this Regional Board is subject to a civil monetary remedy of up to 20 dollars per gallon of waste discharged or, if a cleanup and abatement order is issued, up to 15,000 dollars per day of violation or some combination thereof.
4. The California Water Code provides that any person failing or refusing to furnish technical or monitoring program reports, as required under this Order, or falsifying any information provided in the monitoring reports is guilty of a misdemeanor and is subject to a civil liability of up to 5,000 dollars for each day in which the violation occurs.
5. This Order becomes effective on the date of adoption by the Regional Board and supersedes the requirements prescribed by Order No. 93-26 and Addendum No. 1 to Order No. 93-26.
6. This Order does not convey any property rights of any sort or any exclusive privileges. The requirements prescribed herein do not authorized the commission of any act causing injury to persons or property, nor protect the discharger from liability under federal, state or local laws, nor create a vested right for the discharger to continue the waste discharge.

I, John H. Robertus, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Diego Region, on March 10, 1998.



John H. Robertus
Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

MONITORING AND REPORTING PROGRAM NO. 99-04
FOR THE

ZOOLOGICAL SOCIETY OF SAN DIEGO
SAN DIEGO WILD ANIMAL PARK
SAN DIEGO COUNTY

A. MONITORING PROVISIONS

1. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring points specified in this Order and, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to and the approval of the Regional Board.
2. Monitoring must be conducted according to United States Environmental Protection Agency test procedures approved under Title 40, Code of Federal Regulations (CFR), Part 136, "Guidelines Establishing Test Procedures for Analysis of Pollutants Under the Clean Water Act" as amended, unless other test procedures have been specified in this Order.
3. All analyses shall be performed in a laboratory certified to perform such analyses by the California Department of Health Services or a laboratory approved by the Regional Board.
4. Monitoring results must be reported on forms acceptable to the Regional Board.
5. If the discharger monitors any pollutants more frequently than required by this Order, using test procedures approved under 40 CFR, Part 136, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the discharger's monitoring report. The increased frequency of monitoring shall also be reported.
6. The discharger shall retain records of all monitoring information, including all copies of all reports required by this Order, and records of all data used to complete the application for this Order. Records shall be maintained for a minimum of five years from the date of the sample, measurement, report, or application. This period may be extended during the course of any unresolved litigation regarding this discharge or when requested by the Regional Board.

7. Records of monitoring information shall include:
 - a. The date, exact place, and time of sampling or measurement;
 - b. The individual(s) who performed the sampling or measurements;
 - c. The date(s) analyses were performed;
 - d. The individual(s) who performed the analyses;
 - e. The analytical techniques or method used; and
 - f. The results of such analyses.
8. The discharger shall report all instances of noncompliance not reported under Reporting Requirement G.5 of this Order at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision G.5.
9. The monitoring reports shall be signed by an authorized person as required by Reporting Requirement G.8.
10. A grab sample is an individual sample of at least 100 milliliters collected at a randomly selected time over a period not exceeding 15 minutes.
11. Sampling and analysis of treatment plant effluent shall, as a minimum, be conducted in accordance with Article 6 of the California Code of Regulations, Title 22, Division 4, Chapter 3 (Reclamation Criteria).
12. Detection methods used for coliforms (total and fecal) shall be those presented in the most recent edition of *Standard Methods for the Examination of Water and Wastewater* or any improved method approved by the Executive Officer.
13. The purpose of this monitoring program is to:
 - a. Determine compliance with the terms and conditions of Order No. 99-04.
 - b. Determine that the applicable State and federal water quality standards are met.
 - c. Measure the effectiveness of best management practices at the facility to reduce or prevent pollutants in storm water discharges.

B. SEWAGE TREATMENT PLANT EFFLUENT

The following shall constitute the effluent monitoring program for the disposal of wastewater by the Zoological Society of San Diego's Wild Animal Park. Effluent samples shall be taken at the end of the sewage treatment process prior to discharge to the storage pond.

Parameter	Unit	Type of Sample	Sampling Frequency	Reporting Frequency
Flowrate	MGD	Continuous	Continuous	Quarterly
Biochemical Oxygen Demand (5-Day @ 20 C)	mg/L	Grab	Quarterly ¹	Quarterly
Total Suspended Solids	mg/L	Grab	Quarterly ¹	Quarterly
pH		Grab	Quarterly ¹	Quarterly
Total Dissolved Solids	mg/L	Grab	Annual ¹	Annual
Chloride	mg/L	Grab	Annual ¹	Annual
Sulfate	mg/L	Grab	Annual	Annual
Nitrate (NO ₃)	mg/L	Grab	Annual	Annual
Iron	mg/L	Grab	Annual	Annual
Manganese	mg/L	Grab	Annual	Annual

¹ The discharger shall increase the sampling frequency from quarterly to monthly and from annually to quarterly for any noted constituent that exceeds the limit specified by Discharger Specification B.4 of Order 99-04. Monthly or quarterly monitoring shall continue until the discharger achieves compliance with the limitations for three consecutive periods. After compliance is achieved, the discharger shall resume sampling at the specified frequency.

C. SURFACE WATER MONITORING

1. Surface water monitoring shall be conducted at the following locations:

Station Identification	Station Location*
SW-1	Green waste storage site
SW-2	Manure storage site
SW-3	Just upstream of culvert at Hwy 78 downgradient of drainage subarea # 1
SW-4	Just upstream of culvert at Hwy 78 downgradient of drainage subarea # 2
SW-5	Just upstream of culvert at Hwy 78 downgradient of drainage subarea # 3
SW-6	Just upstream of culvert at Hwy 78 downgradient of drainage subarea # 4
SW-7	East Africa Pond
SW-8	Runoff Pond
SW-9	South Africa Pond

* The exact locations of these monitoring stations shall be coordinated with the Regional Board prior to initiating monitoring.

2. A grab sample of surface drainage shall be collected at SW-1 and SW-2 for every storm event that water contacting the manure or green waste stockpiles is not fully

retained on the site. An estimate of the drainage volume based upon flow rates and duration of the discharge shall be determined and the sample shall be analyzed for the following. The results shall be reported in the subsequent quarterly report:

Parameter	Units	Sampling Frequency	Reporting Frequency
Total/Fecal Coliform	MPN	Annual	Annual
Biochemical Oxygen Demand (5-Day @ 20 C)	mg/L	Annual	Annual
ammonia nitrogen	mg/L	Annual	Annual
nitrate	mg/L	Annual	Annual
total nitrogen	mg/L	Annual	Annual
ortho phosphate	mg/L	Annual	Annual
total phosphate	mg/L	Annual	Annual

3. A grab sample of surface drainage at SW-3 and SW-4 shall be collected during the first storm event of the wet season that causes drainage at the monitoring locations. The discharger shall estimate the volume of storm water discharged and note whether the sample was collected within the first hour of discharge. the sample shall be analyzed for the following and the results shall be reported in the subsequent quarterly report:

Parameter	Units	Sampling Frequency	Reporting Frequency
Setteable solids	ml/L	Annual	Annual
Total suspended solids (TSS)	mg/L	Annual	Annual

4. A grab sample of surface drainage at SW-5 and SW-6 shall be collected during the first storm event of the wet season that causes drainage at the monitoring locations. The discharger shall estimate the volume of storm water discharged and note whether the sample was collected within the first hour of discharge. The sample shall be analyzed for the following and the results shall be reported in the subsequent quarterly report:

Parameter	Units	Sampling Frequency	Reporting Frequency
Total/Fecal Coliform	MPN	Annual	Annual
Biochemical Oxygen Demand (5-Day @ 20 C)	mg/L	Annual	Annual
ammonia nitrogen	mg/L	Annual	Annual
nitrate	mg/L	Annual	Annual
total nitrogen	mg/L	Annual	Annual
ortho phosphate	mg/L	Annual	Annual
total phosphate	mg/L	Annual	Annual

5. An annual water quality analysis of samples collected during the month of November of each year at: **SW-8** or at **SW-7** if no water is collected at **SW-8**; and at **SW-9** shall be submitted as part of the annual report. The samples shall be analyzed for the following constituents:

Parameter	Units	Sampling Frequency	Reporting Frequency
Total/Fecal Coliform	MPN	Annual	Annual
Biochemical Oxygen Demand (5-Day @ 20 C)	mg/L	Annual	Annual
ammonia nitrogen	mg/L	Annual	Annual
nitrate	mg/L	Annual	Annual
total nitrogen	mg/L	Annual	Annual
ortho phosphate	mg/L	Annual	Annual
total phosphate	mg/L	Annual	Annual

D. GROUND WATER

The discharger shall collect samples of groundwater from wells designated as *Brows* and *Valley Well* and analyze the sample for the following constituents:

Parameter	Unit	Type of Sample	Sampling Frequency	Reporting Frequency
Total Dissolved Solids	mg/L	Grab	Annual	Annual
Nitrate (as NO ₃)	mg/L	Grab	Annual	Annual
Chloride	mg/L	Grab	Annual	Annual

E. WASTE MANAGEMENT ASSESSMENT

1. At a minimum, the discharger shall conduct at least one comprehensive site compliance evaluation per year. If necessary, the best management practices for management of waste and for the reuse of wastewater shall be revised as

appropriate within 90 days of the evaluation. The evaluations shall include the following:

- a. A review of all visual observation records, inspection records, and sampling and analysis results.
 - b. A visual inspection of all potential pollutant sources for evidence of, or the potential for, pollutants entering the drainage systems.
 - c. A review and evaluation of all BMPs (both structural and non-structural) to determine whether the BMPs are adequate, properly implemented and maintained, or whether additional BMPs are needed. A visual inspection of equipment needed to implement the BMPs, such as spill response equipment, shall be included.
 - d. A review of the measures being implemented for the protection of workers and the public from the potential health hazards of recycled water use.
 - e. An evaluation report that includes, (i) identification of personnel performing the evaluation, (ii) the date(s) of the evaluation, (iii) necessary BMP revisions, (iv) schedule, as required in Section A.10.e, for implementing BMP revisions, (v) any incidents of non-compliance and the corrective actions taken, and (vi) a certification that the facility operator is in compliance with this Order. If the above certification cannot be provided, explain in the evaluation report why the facility operator is not in compliance with this Order. The evaluation report shall be submitted as part of the annual report, retained for at least five years, and signed and certified in accordance with Reporting Requirement G.8.
2. The discharger shall conduct routine inspections of the waste management facilities and make visual observations of waste management practices at the WAP to detect potential failures in containment and retention facilities and inconsistencies with the waste management practices as described in the report of waste discharge dated July 1998 or subsequent revised waste management plan.
 3. The discharger shall visually observe storm water discharges from one storm event per month during the wet season (October 1-May 30). These visual observations shall occur during the first hour of discharge and at all discharge locations. Visual observations of stored or contained storm water shall occur at the time of release. These observations are only required of storm water discharges that occur during

daylight hours that are preceded by at least three (3) working days¹ without storm water discharges and that occur during scheduled facility operating hours.

Visual observations shall document the presence of any floating and suspended material, oil and grease, discolorations, turbidity, odor, and source of any pollutants. Records shall be maintained of observation dates, locations observed, observations, and response taken to reduce or prevent pollutants in storm water discharges. The best management practices shall be revised, as necessary, and implemented in accordance with this Order.

F. ANNUAL REPORT

The discharger shall submit an Annual Report by January 30 of each year that contains:

1. A summary of visual observations and a copy of the assessment report required in Section E.
2. The results of all monitoring required in Section C.
3. The volume of sewage sludge produced during the year, a description of the location and manner of disposal and a statement of compliance regarding CFR Part 503 regulations .
4. The volume of manure and green waste produced and stockpiled during the year, a description of the location and manner of disposal and a statement of compliance with Discharge and Operation Specifications C of this Order.
5. A description of any chemicals used in the management of East Africa and South africa ponds water quality.
6. A monthly log of the minimum freeboard measured in the wetland pond, the wetland overflow pond and the Shoebill overflow pond at the Bird Holding Facility.
7. A certification statement that the discharge to the Bird Holding Facility leach field consisted only of precipitation runoff and wash water. This

¹

Three (3) working days may be separated by non-working days such as weekends and holidays provided that no storm water discharges occur during the three (3) working days and the non-working days.

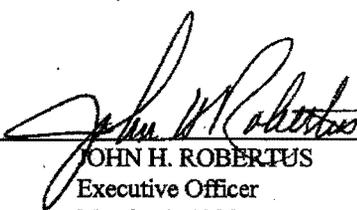
statement shall include a list of any chemicals used in washing the Bird Holding Facility.

G. REPORTING

Monitoring reports shall be submitted to the Executive Officer in accordance with the following schedule:

<u>Reporting Frequency</u>	<u>Report Period</u>	<u>Report Due</u>
Monthly		2 nd month after
Quarterly	January - March	April 30
	April - June	July 30
	July - September	October 30
	October - December	January 30
Annual	January - December	January 30

Ordered by: _____


JOHN H. ROBERTUS

Executive Officer

March 10, 1998