California Regional Water Quality Control Board
Santa Ana Region

Order No. R8-2005-0009

Waste Discharge Requirements
For
El Modeno Gardens, Inc.
Orange County

The California Regional Water Quality Control Board, Santa Ana Region (hereinafter Regional Board), finds that:

1. On December 2, 1998, El Modeno Gardens, Inc. (hereinafter discharger), submitted a complete Report of Waste Discharge for updated waste discharge requirements for the discharge of nursery irrigation and storm runoff. Currently, waste discharges from the facility are regulated under Order No. 90-80. Order No 90-80 is being updated to reflect current State regulations and changes in plans and policies of the State and Regional Board.

2. The discharger operates a wholesale nursery complex at 11911 Jeffrey Boulevard in the Irvine area of Orange County.

3. The facility occupies approximately 95 acres. About 61 acres of the site ares used for production.

4. The discharger grows plants in containers and employs three methods of irrigating plants. Plants are either spray irrigated, drip irrigated or placed on capillary mats. Irrigation on approximately 5 acres is with capillary irrigation, 15 acres with drip irrigation, 21 acres with both drip and overhead spray irrigation, and 20 acres with overhead spray irrigation. The volume of water use is dependent on the type of plants and climatic conditions. On the average, water use at the facility is approximately 9.25 million gallons per month (MGM), with a minimum of 3 MGM and a maximum of 16 MGM.

5. The discharger adds fertilizers to the irrigation water and/or directly to the soil mix. The discharger uses pesticides and herbicides on an as-needed basis.

6. Wastewater is discharged into a storm drain that runs alongside Portola Parkway at Latitude 33°42'.28"N and Longitude 117°45'01"W. This storm drain channel discharges to San Diego Creek, a tributary of Upper Newport Bay.

7. A revised Water Quality Control Plan (the Basin Plan) became effective on January 24, 1995. The Basin Plan contains beneficial uses and water quality objectives for waters in the Santa Ana Region.

8. The requirements contained in this Order are necessary to implement the Water Quality Control Plan.

9. The beneficial uses of San Diego Creek and Newport Bay include:

   a. Navigation;
   b. Water contact recreation;
   c. Non-water contact recreation;
   d. Commercial and sportfishing;
   e. Preservation of biological habitats of special significance;
   f. Wildlife habitat;
   g. Rare, threatened or endangered species;
   h. Spawning, reproduction, and development;
   i. Marine habitat;
   j. Shellfish harvesting;
   k. Warm freshwater habitat; and
   l. Estuarine habitat.

10. On April 17, 1998, the Regional Board adopted Resolution No. 98-69, amending the Basin Plan to include a TMDL for sediment in the Newport Bay/San Diego Creek Watershed. The sediment TMDL requires the implementation of Best Management Practices (BMPs) to control sediment to provide a reasonable assurance that water quality standards will be met. This sediment TMDL was amended by Resolution No. 98-101 on October 9, 1998 and has been approved by the State Water Resources Control Board, Office of Administrative Law and the US EPA. The sediment TMDL provides an allocation for all agricultural operations of 19,000 tons per year into San Diego Creek and its tributaries.

11. On April 17, 1998, the Regional Board also adopted Resolution No. 98-9, amending the Basin Plan for the Santa Ana River Basin to incorporate a Nutrient Total Maximum Daily Load (TMDL) for the Newport Bay/San Diego Creek Watershed. The TMDL was amended by Resolution No. 98-100 on October 9, 1998 and thereafter approved by the State Water Resources Control Board, Office of Administrative Law and the US EPA. The TMDL provides a total nitrogen allocation for El Modeno Gardens, Inc. of 40 lbs per day (monthly average), to be achieved no later than 2007. The TMDL provides a total phosphorous load allocation for all agricultural operations in the Newport Bay watershed of 18,720 lbs per year, to be achieved no later than 2007. The TMDL indicates that the implementation of the sediment TMDL is expected to be the primary means of achieving phosphorus loading reductions. However, the TMDL specifies that phosphorus limitations will be included in waste discharge requirements as necessary.

12. This Order implements requirements and provisions of the Nutrient TMDL specified in Resolution No. 98-9, as amended by Resolution No. 98-100.

13. This Order includes an effluent limit for total suspended solids (TSS) based on the sediment TMDL allocation (19,000 tons/year implemented as a 10-year running annual average) for agricultural land. This Order requires monitoring for TSS. The TSS limit will be revisited based on evaluation of these data.

14. The project involves the update of waste discharge requirements for an existing facility and, as such, is exempt from the California Environmental Quality Act (Public Resources Code, Section 21100 et. seq.) in accordance with Section 15301, Chapter 3, Title 14, California Code of Regulations.

15. The quality characteristics of the discharge and the impacts of the discharge on the affected receiving waters (including San Diego Creek and Newport Bay) have been carefully considered. If conducted in accordance with the terms and conditions of this Order, the discharge will not result in a lowering of the water quality of the affected receiving waters. The discharge is consistent with State antidegradation policy (State Water Resources Control Board Resolution No. 68-16). There is no indication that the receiving waters affected by the discharge are high quality. The discharge will not result in water quality less than that prescribed in the Basin Plan. The discharge limitations specified in the Order implement relevant TMDLs specified in the Basin Plan to assure that water quality standards (objectives and beneficial uses) are achieved. The discharge will not result in any adverse impacts to the present or potential beneficial uses of the receiving waters.

16. The Regional Board has notified the discharger and other interested agencies and persons of its intent to prescribe waste discharge requirements for this discharge and has provided them with the opportunity to submit their written views and recommendations.

17. The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the 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. DISCHARGE SPECIFICATIONS:[1]

1. The discharge of wastes containing a monthly average total nitrogen or total phosphorous mass emission rate that exceeds the values shown in the following table is prohibited.

Dates	Monthly Average Mass Emission Rate	
	Total Nitrogen	Total Phosphorous
Beginning April 1, 2005	43 lbs/day	27 lbs/month
By December 31, 2007	40 lbs/day	19 lbs/month

[1] *See Provisions B.3 and B.4., below for compliance with effluent limitations.*

2. The discharge of waste containing a 12-month average mass total suspended solids in excess of 19.5 tons/month[2] is prohibited.

3. The discharge of wastewater other than agricultural irrigation runoff and stormwater runoff is prohibited.

4. The discharge of hazardous wastes is prohibited.

5. The discharge shall not cause toxicity to animal or plant life in affected receiving waters.

6. The discharge shall not contain any visible oil and grease.

B. PROVISIONS:

1. Neither the treatment nor the discharge of waste shall create, or threaten to create, a nuisance or pollution as defined by Section 13050 of the California Water Code.

2. Order No. 90-80 is hereby rescinded.

3. Compliance with the monthly average mass emission rate specified under Discharge Specification A.1. for Total Nitrogen and Total Phosphorous shall be determined by the total flow discharged within the month (in million gallons) multiplied by the average of all measurements for the parameter (in mg/l) within the month and multiplied by 8.34. Compliance with Total Nitrogen limits (lbs/day) shall be determined by dividing the monthly mass emission rate by the total number of calendar days within the month in consideration. Discharges that occur between October 1 and March 31 when the storm-induced mean daily flow rate measured at San Diego Creek at Campus Drive[3] is above 50 cfs shall not be included in the determination of compliance with the Total Nitrogen limits.

4. Compliance with the 12-month average mass limits specified in Discharge Specification A.2. shall be determined monthly by the arithmetic mean of the last twelve monthly averages.

5. The discharger shall comply with Monitoring and Reporting Program (M&RP) No. R8-2005-0009 as issued by the Executive Officer. This M&RP may be modified by the Executive Officer at any time during the term of this Order, and may include a reduction or an increase in the number of parameters to be monitored, the frequency of the monitoring or the number and size of samples collected.

6. By May 1, 2005, the discharger shall submit a listing of chemicals/pesticides/herbicides that are used onsite. This shall include the estimated application rate and intended

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2 *Calculated from the sediment TMDL load allocation of 19,000 tons per year for agricultural land multiplied by 95 (site acreage) divided by 12 and 7,714 (total agricultural acreage in the watershed)*

3 *Measurements taken by Orange County Resources and Development Management Department.*

time/date of application. The discharger shall provide notice and resubmit a revised listing of chemicals whenever this listing is updated/revised.

7. The discharger shall update and implement best management practices to maximize reduction of nutrients (nitrogen and phosphorous), sediment and chemicals/pesticides/herbicides in the discharge and to minimize waste discharges from the site to the maximum extent practicable.

8. The discharger shall take all reasonable steps to minimize or prevent any discharge that has a reasonable likelihood of adversely affecting human health or the environment.

9. The discharger shall take all reasonable steps to minimize any adverse impact to receiving waters resulting from noncompliance with any requirements specified in this Order, including such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge.

10. This Order does not exempt the discharger from compliance with any other applicable laws, regulations or ordinances which may be applicable; this Order does not legalize the discharge of waste from the facility and they leave unaffected any further restraint on the disposal of wastes at this facility which may be required by other agencies or contained in other statutes or required by other agencies.

11. This Order does not convey any property rights of any sort, or any exclusive privilege.

12. This Order is not transferable to any person except after notice to, and approval by the Executive Officer. The Regional Board may require modification or revocation and re-issuance of this Order to change the name of the discharger and incorporate such other requirements as may be necessary.

13. In the event of any change in control or ownership of land or waste discharge facility presently owned or controlled by the discharger, the discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be forwarded to the Regional Board.

14. All hazardous wastes from this facility must be collected for disposal or treatment at an approved waste management unit.

15. The discharge of wastes to property not owned or controlled by the discharger is prohibited, unless authorized in this Order.

16. The requirements prescribed herein do not authorize the commission of any act causing injury to the property of another, nor protect the discharger from liabilities under federal, state, or local laws, nor guarantee the discharger a capacity right in the receiving waters.

17. The Regional Board and other authorized representatives shall be allowed:

    a. Entry upon premises where a regulated facility or activity is located or conducted, or where records are kept under the requirements of this Order;

b. Access to copy any records that are kept under the requirements of this Order;

c. To inspect any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and

d. To photograph, sample and monitor for the purpose of assuring compliance with this Order, or as otherwise authorized by the California Water Code.

I, Gerard J. Thibeault, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, Santa Ana Region, March 4, 2005.

Gerard J. Thibeault
Executive Officer

California Regional Water Quality Control Board
Santa Ana Region

Monitoring and Reporting Program No. R8-2005-0009
for
El Modeno Gardens, Inc.
Orange County

A. MONITORING AND REPORTING REQUIREMENTS:

1. All sampling and sample preservation shall be in accordance with the current edition of "*Standard Methods for the Examination of Water and Wastewater*" (American Public Health Association).

2. Chemical, bacteriological, and bioassay analyses shall be conducted at a laboratory certified for such analyses by the California Department of Health Services or at laboratories approved by the Regional Board's Executive Officer.

3. All analytical data reported as "non detected" shall identify either the method detection limit[1] (MDLs), practical quantitation levels (PQLs[2]) or limits of quantitation (LOQs).

4. Laboratory data must quantify each constituent down to the Practical Quantitation Levels specified in Attachment "A." Any internal quality control data associated with the sample must be reported when requested by the Executive Officer. The Regional Board will reject the quantified laboratory data if quality control data is unavailable or unacceptable.

5. For any priority pollutant constituent monitoring, the discharger shall require its testing laboratory to calibrate the analytical system down to the minimum level (ML)[3] specified in Attachment "B" for priority pollutants with effluent limitations in this Order, unless an alternative minimum level is approved by the Regional Board's Executive Officer. When there is more than one ML value for a given substance, the discharger shall use the ML value and their associated analytical methods, listed in Attachment "B" that are below the calculated effluent limitation or equal to or less than the most stringent applicable receiving water quality objective specified for that pollutant in 40 CFR 131.38[4] for those constituents wit hout effluent limitations. The discharger may select any one of those

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1 *The standardized test procedure to be used to determine the method detection limit (MDL) is given at Appendix B, 'Definition and Procedure for the Determination of the Method Detection Limit' of 40 CFR 136. MDL is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analytical concentration is greater than zero, as defined in 40 CFR 136, Appendix B, revised as of May 14, 1999.*

2 *PQL is the lowest concentration of a substance which can be determined within ± 20 percent of the true concentration by 75 percent of the analytical laboratories tested in a performance evaluation study. Alternatively, if performance data are not available, the PQL is the method detection limit (MDL) x 5 for carcinogens and MDL x 10 for noncarcinogens.*

3 *Minimum level is the concentration at which the entire analytical system must give a recognizable signal and acceptable point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.*

4 *See Federal Register/ Vol. 65, No. 97 / Thursday, May 18, 2000 / Rules and Regulations.*

cited analytical methods for compliance determination. If no ML value is below the effluent limitation, then the lowest ML value, and its associated analytical method, listed in Attachment "B" shall be used. Any internal quality control data associated with the sample must be reported when requested by the Executive Officer. The Regional Board will reject the quantified laboratory data if quality control data is unavailable or unacceptable.

a. The discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

1) Sample results greater than or equal to the reported ML shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).

2) Sample results less than the reported ML, but greater than or equal to the laboratory's current Method Detection Limit (MDL)[5], shall be reported as "Detected, but Not Quantified," or "DNQ." The estimated chemical concentration of the sample shall also be reported.

3) Sample results not detected above the laboratory's MDL shall be reported as "not detected" or "ND."

b. The discharger shall submit to the Regional Board reports necessary to determine compliance with effluent limitations for priority pollutants in this Order and shall follow the chemical nomenclature and sequential order of constituents shown in Attachment "C". – Priority Pollutant Lists. The discharger shall report with each sample result:

6. Discharge monitoring data shall be submitted in a format acceptable by the Regional Board. Specific reporting format may include preprinted forms and/or electronic media. The results of all monitoring required by this Order shall be reported to the Regional Board, and shall be submitted in such a format as to allow direct comparison with the limitations and requirements of this Order.

7. The discharger shall tabulate the monitoring data to clearly illustrate compliance and/or noncompliance with the requirements of the Order.

8. For every item of monitoring data where the requirements are not met, the monitoring report shall include a statement discussing the reasons for noncompliance, and of the actions undertaken or proposed which will bring the discharge into full compliance with requirements at the earliest time, and an estimate of the date when the discharger will be

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5 *MDL is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analytical concentration is greater than zero, as defined in 40 CFR 136, Appendix B, revised as of May 14, 1999.*

in compliance. The discharger shall notify the Regional Board by letter when compliance with the time schedule has been achieved.

9. The flow measurement system shall be calibrated at least once per year or more frequently, to ensure continued accuracy.

10. All monitoring instruments and devices used by the discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. In the event that continuous monitoring equipment is out of service for greater than a 24-hour period, the discharger shall obtain a representative grab sample each day the equipment is out of service. The discharger shall correct the cause(s) of failure of the continuous monitoring equipment as soon as practicable. In its monitoring report, the discharger shall specify the period(s) during which the equipment was out of service and if the problem has not been corrected, shall identify the steps which the discharger is taking or proposes to take to bring the equipment back into service and the schedule for these actions.

11. Monitoring and reporting shall be in accordance with the following:

    a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

    b. Whenever the discharger monitors any pollutant more frequently than is required by this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the discharge monitoring report specified by the Executive Officer.

    c. A "grab" sample is defined as any individual sample collected in less than 15 minutes.

    d. A composite sample is defined as a combination of no fewer than eight individual grab samples obtained over the specified sampling period. The volume of each individual grab sample shall be proportional to the discharge flow rate at the time of sampling. The compositing period shall equal the specific sampling period, or 24 hours, if no period is specified.

    e. Quarterly samples shall be collected from the first discharge of February, May, August, and November. If no discharge occurs during these months, then the next succeeding discharge shall be sampled.

    f. Semi-annual samples shall be collected from the first storm-induced discharge between October and April and the first dry weather discharge between April and October.

    g. Annual samples shall be collected of the first discharge of October. If no discharge occurs during that month, then the next succeeding discharge shall be sampled.

h. The monthly mass emission rate for total nitrogen and total phosphorous shall be determined by using the following formula:

$$Mass\ (lbs/month) = 8.34 \times Q \times C$$

Where:

Q = total flow discharged within the month in million gallons.

C = the sum of all measurements for the parameter within the month (in milligrams per liter) divided by the total number of samples.

The daily mass emission rate for total nitrogen shall be determined by dividing the monthly mass emission rate by the number of calendar days within the month in consideration. Discharges that occur between October 1 and March 31 when the storm-induced mean daily flow rate measured at San Diego Creek at Campus Drive[6] is above 50 cfs shall not be included in the determination of compliance with the Total Nitrogen limits. The daily mass emission rate shall be calculated annually in December and shall be submitted with the required monthly report for January.

i. Mass emissions for sediments

The discharger shall estimate mass loading of sediments for all dry weather discharges as well as storm water discharges from all discharge points at the site. To estimate mass loading, the discharger may develop a relationship between total suspended solids in the discharge and flow. Alternatively, the discharger may use the formula above to estimate mass loading, but with C equal to the sum of all measurements of TSS for the month (storm and nonstorm flows, in mg/l) divided by the total number of samples.

12. All reports and/or information submitted to the Regional Board shall be signed by a responsible officer or duly authorized representative of the discharger and shall be submitted under penalty of perjury.

13. The discharger, unless otherwise specified elsewhere in this M&RP, shall deliver a copy of each monitoring report in the appropriate format to:

California Regional Water Quality Control Board
Santa Ana Region
3737 Main Street, Suite 500
Riverside, CA 92501-3348

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6 *Measured by Orange County Resources and Development Management Department*

B. EFFLUENT MONITORING:

1. Sampling stations shall be established at the point of discharge and shall be located where representative samples of the effluent can be obtained. The date and time of sampling shall be reported with the analytical values determined.

2. The following shall constitute the effluent monitoring program for all discharges:

Constituent	Units	Type of Sample	Minimum Frequency of Sampling & Analysis
Irrigation Wastewater Discharges[7]	mgd	Recorder/Totalizer	Continuous
Stormwater Discharges[8]	"	"	"
Total Dissolved Solids	mg/l	Grab	Weekly (See B.6, below)
Electrical Conductivity	µmhos/cm	"	"
Nitrate (NO_3)	mg/l	"	"
Ammonia Nitrogen (NH_4)	"	"	"
Total Nitrogen	"	"	"
Total Phosphorous	"	"	"
Total Suspended Solids	"	"	"
Copper	"	"	"
Total Hardness	"	"	"
Diazinon	"	"	"
Chlorpyrophos	mg/l	Grab	Weekly (See B.6, below)
Organophosphate	"	"	"
Selenium[9]	µg/l	"	Semi-annually (see also paragraph B.3 and 4., below)
Aldrin	"	"	"
Chlordane	"	"	"
Dieldrin	"	"	"
2, 4' – DDD[6]	"	"	"

7 *Discharges during dry weather conditions.*

8 *Discharges due to storm events. "Storm Event" means a rainfall event that produces more than 0.1 inch of precipitation and that is separated from the previous storm event by at least 72 hours of dry weather.*

9 *Selenium, DDTs, chlordane, PCBs, dieldrin and toxaphene are to be analyzed on an unfiltered sample.*

Constituent	Units	Type of Sample	Minimum Frequency of Sampling & Analysis
2, 4' – DDE[6]	µg/l	Grab	Semi-annually (see also paragraph B.3 and 4., below)
2, 4' – DDD[6]	"	"	"
4, 4' – DDT[6]	"	"	"
4, 4' – DDE[6]	"	"	"
4, 4' – DDD[6]	"	"	"
Alpha Endosulfan	"	"	"
Beta Endosulfan	"	"	"
Endosulfan Sulfate	"	"	"
Endrin	"	"	"
Endrin Aldehyde	"	"	"
Heptachlor	"	"	"
Heptachlor Epoxide	"	"	"
Alpha BHC	"	"	"
Beta BHC	"	"	"
Delta BHC	"	"	"
Gamma BHC	"	"	"
Toxaphene	"	"	"
PCB 1016	"	"	"
PCB 1221	"	"	"
PCB 1232	"	"	"
PCB 1242	"	"	"
PCB 1248	"	"	"
PCB 1254	"	"	"
PCB 1260	"	"	"
Remaining EPA Priority Pollutants (See Attachment "C")	µg/l	Grab	Annually

3. In conjunction with sampling for organochlorine pesticides and selenium, the discharger shall conduct a sediment particle size analysis and analysis for total organic carbon. Particle analysis may be performed using the standard hydrometer method.

4. Minimum frequency of sampling and analysis shall be twice per year, however quarterly monitoring for those constituents that are detected in the above test shall be implemented for one year following detection.

5. When a discharge occurs, the discharger shall conduct a visual inspection of where, when and whether the discharge percolates. The results of this visual inspection shall be recorded in a permanent log and submitted with the monthly report.

6. Minimum frequency of sampling and analysis shall be as follows:

   a. For dry weather flow discharges, within one hour of discharge.
   b. For storm-induced discharges, within 1 hour of first flush discharge every storm event.

C. REPORTING:

1. Monitoring reports shall be submitted monthly following the monitoring period. The monitoring reports shall also include copies of Monthly Summary Pesticide Use Report the discharger submits to the Department of Pesticide Regulations (DPR). Monitoring reports shall be submitted by the dates in the following schedule:

Report[10]	Reporting period	Report Due Date
Irrigation Wastewater Discharges	Monthly	By the 30th day of the month following the monitoring period
Storm Water Discharges	"	"
Particle Size Analysis & Total Organic Carbon	(See B.3, above)	"
Annual Priority Pollutants Analysis	(See A.11.g, above)	By the 30th day of the month following the monitoring period

2. The total volume of water purchased and recycled every month shall be reported.

3. If no discharge occurs during the previous monitoring period, a statement to that effect shall be included in the monitoring report.

Gerard J. Thibeault
Executive Officer

March 4, 2005

10 *This table attempts to summarize all of the special reports that are required to be submitted in accordance with Order No. R8-2005-0009; however, the omission of a report from this table does not absolve the discharger from the requirement to submit that report*

Attachment "A"
M&RP No. R8-2005-0009

PRACTICAL QUANTITATION LEVELS FOR COMPLIANCE DETERMINATION

	Constituent	PQL µg/l	Analysis Method
1	Arsenic	7.5	GF/AA
2	Barium	20.0	ICP/GFAA
3	Cadmium	15.0	ICP
4	Chromium (VI)	15.0	ICP
5	Cobalt	10.0	GF/AA
6	Copper	19.0	GF/ICP
7	Cyanide	50.0	335.2/335.3
8	Iron	100.0	ICP
9	Lead	26.0	GF/AA
10	Manganese	20.0	ICP
11	Mercury	0.50	CV/AA
12	Nickel	50.0	ICP
13	Selenium	2.0	EPA Method 1638, 1640 or 7742
14	Silver	16.0	ICP
15	Zinc	20.0	ICP
16	1,2 - Dichlorobenzene	5.0	601/602/624
17	1,3 - Dichlorobenzene	5.0	601
18	1,4 - Dichlorobenzene	5.0	601
18	2,4 - Dichlorophenol	10.0	604/625
20	4 - Chloro -3- methylphenol	10.0	604/625
21	Aldrin	0.04	608
22	Benzene	1.0	602/624
23	Chlordane	0.30	608
24	Chloroform	5.0	601/624
25	DDT	0.10	608
26	Dichloromethane	5.0	601/624
27	Dieldrin	0.10	608
28	Fluorantene	10.0	610/625
29	Endosulfan	0.50	608
30	Endrin	0.10	608
31	Halomethanes	5.0	601/624
32	Heptachlor	0.03	608
33	Hepthachlor Epoxide	0.05	608
34	Hexachlorobenzene	10.0	625
35	Hexachlorocyclohexane		
	Alpha	0.03	608
	Beta	0.03	608
	Gamma	0.03	608
36	PAH's	10.0	610/625
37	PCB	1.0	608
38	Pentachlorophenol	10.0	604/625
39	Phenol	10.0	604/625
40	TCDD Equivalent	0.05	8280
41	Toluene	1.0	602/625
42	Toxaphene	2.0	608
43	Tributyltin	0.02	GC
44	2,4,6-Trichlorophenol	10.0	604/625

MINIMUM LEVELS IN PPB (µg/l)

Table 1 - VOLATILE SUBSTANCES[1]	GC	GCMS
Acrolein	2.0	5
Acrylonitrile	2.0	2
Benzene	0.5	2
Bromoform	0.5	2
Carbon Tetrachloride	0.5	2
Chlorobenzene	0.5	2
Chlorodibromomethane	0.5	2
Chloroethane	0.5	2
Chloroform	0.5	2
Dichlorobromomethane	0.5	2
1,1 Dichloroethane	0.5	1
1,2 Dichloroethane	0.5	2
1,1 Dichloroethylene	0.5	2
1,2 Dichloropropane	0.5	1
1,3 Dichloropropylene (volatile)	0.5	2
Ethylbenzene	0.5	2
Methyl Bromide (*Bromomethane*)	1.0	2
Methyl Chloride (*Chloromethane*)	0.5	2
Methylene Chloride (*Dichloromethane*)	0.5	2
1,1,2,2 Tetrachloroethane	0.5	1
Tetrachloroethylene	0.5	2
Toluene	0.5	2
trans-1,2 Dichloroethylene	0.5	1
1,1,1 Trichloroethane	0.5	2
1,1,2 Trichloroethane	0.5	2
Trichloroethylene	0.5	2
Vinyl Chloride	0.5	2
1,2 Dichlorobenzene (volatile)	0.5	2
1,3 Dichlorobenzene (volatile)	0.5	2
1,4 Dichlorobenzene (volatile)	0.5	2

Selection and Use of Appropriate ML Value:

ML Selection: When there is more than one ML value for a given substance, the discharger may select any one of those ML values, and their associated analytical methods, listed in Attachment "A" that are below the calculated effluent limitation for compliance determination. If no ML value is below the effluent limitation, then the discharger shall select the lowest ML value, and its associated analytical method, listed in this Attachment "A".

ML Usage: The ML value in Attachment "A" represents the lowest quantifiable concentration in a sample based on the proper application of all method-based analytical procedures and the absence of any matrix interferences. Assuming that all method-specific analytical steps are followed, the ML value will also represent, after the appropriate application of method-specific factors, the lowest standard in the calibration curve for that specific analytical technique. Common analytical practices sometimes require different treatment of the sample relative to calibration standards.

Note: chemical names in parenthesis and italicized is another name for the constituent.

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[1] *The normal method-specific factor for these substances is 1, therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance.*

MINIMUM LEVELS IN PPB (μg/l)

Table 2 – Semi-Volatile Substances[2]	GC	GCMS	LC
2-Chloroethyl vinyl ether	1	1	
2 Chlorophenol	2	5	
2,4 Dichlorophenol	1	5	
2,4 Dimethylphenol	1	2	
4,6 Dinitro-2-methylphenol	10	5	
2,4 Dinitrophenol	5	5	
2- Nitrophenol		10	
4- Nitrophenol	5	10	
4 Chloro-3-methylphenol	5	1	
2,4,6 Trichlorophenol	10	10	
Acenaphthene	1	1	0.5
Acenaphthylene		10	0.2
Anthracene		10	2
Benzidine		5	
Benzo (a) Anthracene (*1,2 Benzanthracene*)	10	5	
Benzo(a) pyrene (*3,4 Benzopyrene*)		10	2
Benzo (b) Flouranthene (*3,4 Benzofluoranthene*)		10	10
Benzo(g,h,i)perylene		5	0.1
Benzo(k)fluoranthene		10	2
bis 2-(1-Chloroethoxyl) methane		5	
bis(2-chloroethyl) ether	10	1	
bis(2-Chloroisopropyl) ether	10	2	
bis(2-Ethylhexyl) phthalate	10	5	
4-Bromophenyl phenyl ether	10	5	
Butyl benzyl phthalate	10	10	
2-Chloronaphthalene		10	
4-Chlorophenyl phenyl ether		5	
Chrysene		10	5
Dibenzo(a,h)-anthracene		10	0.1
1,2 Dichlorobenzene (semivolatile)	2	2	
1,3 Dichlorobenzene (semivolatile)	2	1	
1,4 Dichlorobenzene (semivolatile)	2	1	
3,3' Dichlorobenzidine		5	
Diethyl phthalate	10	2	
Dimethyl phthalate	10	2	
di-n-Butyl phthalate		10	
2,4 Dinitrotoluene	10	5	
2,6 Dinitrotoluene		5	
di-n-Octyl phthalate		10	
1,2 Diphenylhydrazine		1	
Fluoranthene	10	1	0.05
Fluorene		10	0.1
Hexachloro-cyclopentadiene	5	5	
1,2,4 Trichlorobenzene	1	5	

MINIMUM LEVELS IN PPB (µg/l)

Table 2 - SEMI-VOLATILE SUBSTANCES[2]	GC	GCMS	LC	COLOR
Pentachlorophenol	1	5		
Phenol [3]	1	1		50
Hexachlorobenzene	5	1		
Hexachlorobutadiene	5	1		
Hexachloroethane	5	1		
Indeno(1,2,3,cd)-pyrene		10	0.05	
Isophorone	10	1		
Naphthalene	10	1	0.2	
Nitrobenzene	10	1		
N-Nitroso-dimethyl amine	10	5		
N-Nitroso -di n-propyl amine	10	5		
N-Nitroso diphenyl amine	10	1		
Phenanthrene		5	0.05	
Pyrene		10	0.05	

Table 3 – INORGANICS[4]	FAA	GFAA	ICP	ICPMS	SPGF AA	HYDRIDE	CVAA	COLOR	DCP
Antimony	10	5	50	0.5	5	0.5			1000
Arsenic		2	10	2	2	1		20	1000
Beryllium	20	0.5	2	0.5	1				1000
Cadmium	10	0.5	10	0.25	0.5				1000
Chromium (total)	50	2	10	0.5	1				1000
Chromium VI	5							10	
Copper		5	10	0.5	2				
Lead	20	5	5	0.5	2				10000
Mercury				0.5			0.2		
Nickel	50	5	20	1	5				1000
Selenium		5		2	5	1			
Silver	10	1	10	0.25	2				1000
Thallium	10	2	10	1	5				1000
Zinc	20		20	1	10				1000
Cyanide								5	

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2 *With the exception of phenol by colorimetric technique, the normal method-specific factor for these substances is 1000, therefore, the lowest standards concentration in the calibration curve is equal to the above ML value for each substance multiplied by 1000.*

3 *Phenol by colorimetric technique has a factor of 1*

4 *The normal method-specific factor for these substances is 1, therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance.*

MINIMUM LEVELS IN PPB (µg/l)

Table 4 - PESTICIDES – PCBs[5]	GC
Aldrin	0.005
alpha–BHC (*a-Hexachloro-cyclohexane*)	0.01
beta–BHC (*b-Hexachloro-cyclohexane*)	0.005
Gamma–BHC (*Lindane; g-Hexachloro-cyclohexane*)	0.02
Delta-BHC (*d-Hexachloro-cyclohexane*)	0.005
Chlordane	0.1
4,4'-DDT	0.01
4,4'-DDE	0.05
4,4'-DDD	0.05
Dieldrin	0.01
Alpha-Endosulfan	0.02
Beta-Endosulfan	0.01
Endosulfan Sulfate	0.05
Endrin	0.01
Endrin Aldehyde	0.01
Heptachlor	0.01
Heptachlor Epoxide	0.01
PCB 1016	0.5
PCB 1221	0.5
PCB 1232	0.5
PCB 1242	0.5
PCB 1248	0.5
PCB 1254	0.5
PCB 1260	0.5
Toxaphene	0.5

Techniques:
GC - Gas Chromatography
GCMS - Gas Chromatography/Mass Spectrometry
HRGCMS - High Resolution Gas Chromatography/Mass Spectrometry (i.e., EPA 1613, 1624, or 1625)
LC - High Pressure Liquid Chromatography
FAA - Flame Atomic Absorption
GFAA - Graphite Furnace Atomic Absorption
HYDRIDE - Gaseous Hydride Atomic Absorption
CVAA - Cold Vapor Atomic Absorption
ICP - Inductively Coupled Plasma
ICPMS - Inductively Coupled Plasma/Mass Spectrometry
SPGFAA - Stabilized Platform Graphite Furnace Atomic Absorption (i.e., EPA 200.9)
DCP - Direct Current Plasma
COLOR - Colorimetric

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5 *The normal method-specific factor for these substances is 100, therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance multiplied by 100.*

Attachment "C"
M&RP No. R8-2005-0009

EPA PRIORITY POLLUTANT LIST

Metals		Acid Extractibles		Base/Neutral Extractibles (continuation)	
1.	Antimony	45.	2-Chlorophenol	91.	Hexachloroethane
2.	Arsenic	46.	2,4-Dichlorophenol	92.	Indeno (1,2,3-cd) Pyrene
3.	Beryllium	47.	2,4-Dimethylphenol	93.	Isophorone
4.	Cadmium	48.	2-Methyl-4,6-Dinitrophenol	94.	Naphthalene
5a.	Chromium (III)	49.	2,4-Dinitrophenol	95.	Nitrobenzene
5b.	Chromium (VI)	50.	2-Nitrophenol	96.	N-Nitrosodimethylamine
6.	Copper	51.	4-Nitrophenol	97.	N-Nitrosodi-N-Propylamine
7.	Lead	52.	3-Methyl-4-Chlorophenol	98.	N-Nitrosodiphenylamine
8.	Mercury	53.	Pentachlorophenol	99.	Phenanthrene
9.	Nickel	54.	Phenol	100.	Pyrene
10.	Selenium	55.	2, 4, 6 – Trichlorophenol	101.	1,2,4-Trichlorobenzene
11.	Silver	**Base/Neutral Extractibles**		**Pesticides**	
12.	Thallium	56.	Acenaphthene	102.	Aldrin
13.	Zinc	57.	Acenaphthylene	103.	Alpha BHC
Miscellaneous		58.	Anthracene	104.	Beta BHC
14.	Cyanide	59.	Benzidine	105.	Delta BHC
15.	Asbestos (not required unless requested)	60.	Benzo (a) Anthracene	106.	Gamma BHC
16.	2,3,7,8-Tetrachlorodibenzo-P-Dioxin (TCDD)	61.	Benzo (a) Pyrene	107.	Chlordane
Volatile Organics		62.	Benzo (b) Fluoranthene	108.	4, 4' - DDT
17.	Acrolein	63.	Benzo (g,h,i) Perylene	109.	4, 4' - DDE
18.	Acrylonitrile	64.	Benzo (k) Fluoranthene	110.	4, 4' - DDD
19.	Benzene	65.	Bis (2-Chloroethoxy) Methane	111.	Dieldrin
20.	Bromoform	66.	Bis (2-Chloroethyl) Ether	112.	Alpha Endosulfan
21.	Carbon Tetrachloride	67.	Bis (2-Chloroisopropyl) Ether	113.	Beta Endosulfan
22.	Chlorobenzene	68.	Bis (2-Ethylhexyl) Phthalate	114.	Endosulfan Sulfate
23.	Chlorodibromomethane	69.	4-Bromophenyl Phenyl Ether	115.	Endrin
24.	Chloroethane	70.	Butylbenzyl Phthalate	116.	Endrin Aldehyde
25.	2-Chloroethyl Vinyl Ether	71.	2-Chloronaphthalene	117.	Heptachlor
26.	Chloroform	72.	4-Chlorophenyl Phenyl Ether	118.	Heptachlor Epoxide
27.	Dichlorobromomethane	73.	Chrysene	119.	PCB 1016
28.	1,1-Dichloroethane	74.	Dibenzo (a,h) Anthracene	120.	PCB 1221
29.	1,2-Dichloroethane	75.	1,2-Dichlorobenzene	121.	PCB 1232
30.	1,1-Dichloroethylene	76.	1,3-Dichlorobenzene	122.	PCB 1242
31.	1,2-Dichloropropane	77.	1,4-Dichlorobenzene	123.	PCB 1248
32.	1,3-Dichloropropylene	78.	3,3'-Dichlorobenzidine	124.	PCB 1254
33.	Ethylbenzene	79.	Diethyl Phthalate	125.	PCB 1260
34.	Methyl Bromide	80.	Dimethyl Phthalate	126.	Toxaphene
35.	Methyl Chloride	81.	Di-n-Butyl Phthalate		
36.	Methylene Chloride	82.	2,4-Dinitrotoluene		
37.	1,1,2,2-Tetrachloroethane	83.	2-6-Dinitrotoluene		
38.	Tetrachloroethylene	84.	Di-n-Octyl Phthalate		
39.	Toluene	85.	1,2-Dipenylhydrazine		
40.	1,2-Trans-Dichloroethylene	86.	Fluoranthene		
41.	1,1,1-Trichloroethane	87.	Fluorene		
42.	1,1,2-Trichloroethane	88.	Hexachlorobenzene		
43.	Trichloroethylene	89.	Hexachlorobutadiene		
44.	Vinyl Chloride	90.	Hexachlorocyclopentadiene		

Note: All laboratory analyses shall be performed in accordance with test procedures under 40 CFR 136 (latest edition) and shall meet the minimum levels specified in Appendix 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California

Revised: 1/12/2005

California Regional Water Quality Control Board
Santa Ana Region

March 4, 2005

STAFF REPORT

ITEM: 9

SUBJECT: Waste Discharge Requirements for El Modeno Gardens, Inc., Order No. R8-2005-0009

DISCUSSION:

On December 2, 1998, El Modeno Gardens, Inc. (hereinafter discharger), submitted a complete Report of Waste Discharge for updated waste discharge requirements for the discharge of nursery irrigation and storm runoff. Currently, waste discharges from the facility are regulated under Order No. 90-80. Order No 90-80 is being updated to reflect current State regulations and changes in plans and policies of the State and Regional Board.

The discharger operates a wholesale nursery complex at 11911 Jeffrey Boulevard in the Irvine area of Orange County and leases approximately 95 acres from The Irvine Company, of which about 61 acres are used for production. The discharger grows plants in containers.

The facility employs three methods of irrigating plants. Plants are either spray irrigated, drip irrigated or placed on capillary mats. Irrigation on approximately 5 acres is with capillary irrigation, 15 acres with drip irrigation, 21 acres with both drip and overhead spray irrigation, and 20 acres with overhead spray irrigation. The facility receives water from Irvine Ranch Water District. The volume of water use is dependent on the type of plants and climatic conditions. On the average, water use at the facility is approximately 9.25 million gallons per month (MGM), with a minimum of 3 MGM and a maximum of 16 MGM. The discharger adds fertilizers to the irrigation water and/or directly to the soil mix. The discharger uses pesticides and herbicides on an as-needed basis.

The entire nursery drains towards northeast to the sediment trap area and then to a concrete channel that runs parallel to Portola Parkway. Several Canna Tropicana plants are planted in the channel for nitrogen uptake. Wastewater flowing in the channel is diverted to a lined pond. Wastewater from the pond is trucked out on a regular basis and used for soil mixing or dust control.

Wastewater that exceeds the capacity of the pond is discharged into a storm drain that runs alongside Portola Parkway at Latitude 33°42'.28"N and Longitude 117°45'01"W. This storm drain channel discharges to San Diego Creek, a tributary of Upper Newport Bay.

The beneficial uses of San Diego Creek and Newport Bay include navigation, water contact recreation, non-water contact recreation, commercial and sportfishing, preservation of biological habitats of special significance, wildlife habitat, rare, threatened or endangered species, spawning, reproduction, and development, marine habitat, shellfish harvesting, warm freshwater habitat, and estuarine habitat.

On April 17, 1998, the Regional Board adopted Resolution No. 98-69, amending the Basin Plan to include a TMDL for sediment in the Newport Bay/San Diego Creek Watershed. The sediment TMDL requires the implementation of Best Management Practices (BMPs) to control sediment to provide a reasonable assurance that water quality standards will be met. This sediment TMDL was amended by Resolution No. 98-101 on October 9, 1998 and has been approved by the State Water Resources Control Board, Office of Administrative Law and the US EPA. The sediment TMDL provides an allocation for all agricultural operations of 19,000 tons per year into San Diego Creek and its tributaries.

On April 17, 1998, the Regional Board also adopted Resolution No. 98-9, amending the Basin Plan for the Santa Ana River Basin to incorporate a Nutrient Total Maximum Daily Load (TMDL) for the Newport Bay/ San Diego Creek Watershed. The TMDL was amended by Resolution No. 98-100 on October 9, 1998 and thereafter approved by the State Water Resources Control Board, Office of Administrative Law and the US EPA. The TMDL provides a total nitrogen allocation for El Modeno Gardens, Inc. of 40 lbs per day (monthly average), to be achieved no later than 2007. The TMDL provides a total phosphorous load allocation for all agricultural operations in the Newport Bay watershed of 18,720 lbs per year, to be achieved no later than 2007. The TMDL indicates that the implementation of the sediment TMDL is expected to be the primary means of achieving phosphorus loading reductions. However, the TMDL specifies that phosphorus limitations will be included in waste discharge requirements as necessary.

The proposed Order specifies waste discharge requirements for El Modeno Gardens, Inc., including a wasteload allocation for total nitrogen based on the nutrient TMDL and a limit on total phosphorous. The proposed Order also includes a limit on total suspended solids based on the load allocations for agricultural land specified in the sediment TMDL. The proposed Order requires the discharger to implement BMPs to reduce wastewater discharges and discharges of pollutants, including pesticides and herbicides.

Order No. R8-2005-0009 should be adequate to protect the beneficial uses of San Diego Creek and Newport Bay.

The facility site map and location of discharge points are shown on Attachments "A" and "B", respectively.

RECOMMENDATION:

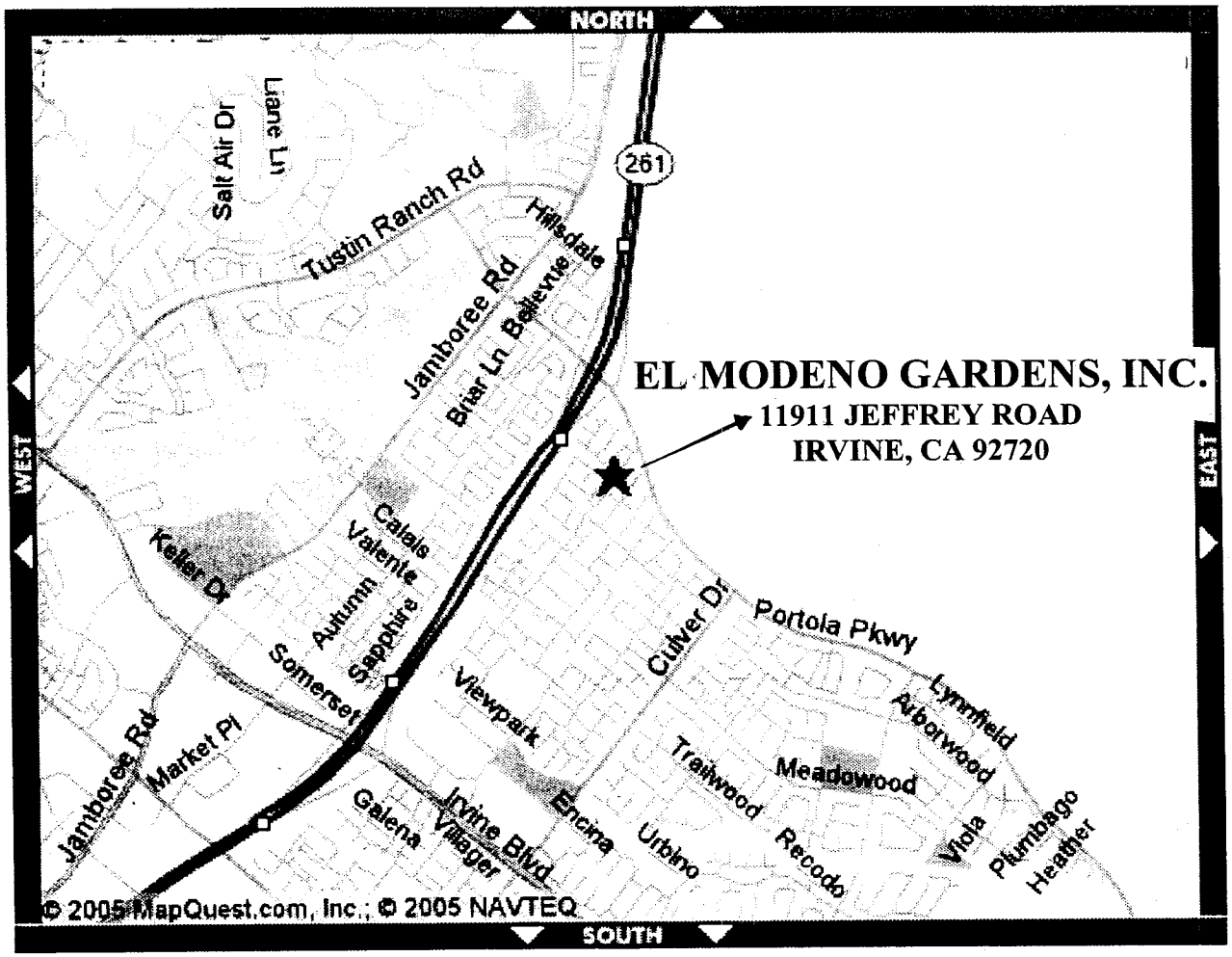
Adopt Order No. R8-2005-0009, as presented.

Comments were solicited from the following agencies and/or persons:

State Water Resources Control Board, Office of the Chief Counsel - Jorge Leon
State Water Resources Control Board, Division of Water Quality - James Maughan
State Department of Water Resources, Glendale
California Department of Fish and Game, San Diego – Tim Dillingham
Orange County Health Care Agency – Steven Wong

Orange County Resources and Development Management Department – Chris Crompton
Orange County Farm Bureau - Kathy Nakase
Irvine Ranch Water District – John Hills
University of California Cooperative Extension, South Coast Research Center – John Kabashima
City of Newport Beach – Dave Kiff
City of Lake Forest
City of Irvine – Mike Loving
Bordier's Nursery , Inc. – Bill Russell
Nakase Brothers Wholesale Nursery – Steve Nakase
Hines Nurseries, Inc. – Michael MacDavid
Defend the Bay – Bob Caustin
SPON – John Skinner
Natural Resources Defense Council – David Beckman
Orange County Coastkeeper
Lawyers for Clean Water C/c San Francisco Baykeeper

LOCATION MAP



Attachment "B"
Staff Report
Order No. R8-2005-0009
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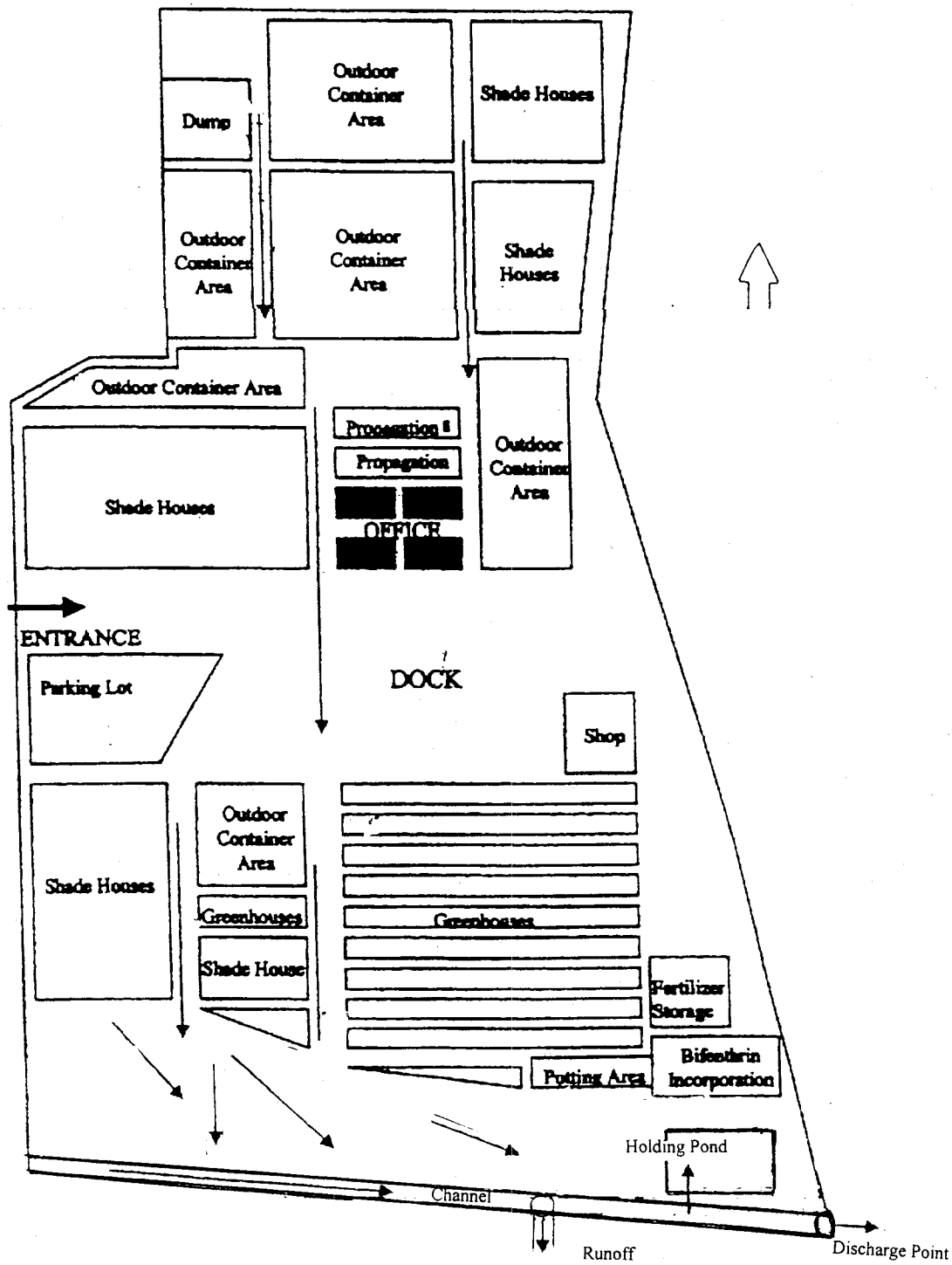
DISCHARGE LOCATIONS