CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2003-0159

WASTE DISCHARGE REQUIREMENTS
FOR
SALAD COSMO USA CORPORATION
DIXON SPROUT FACILITY
SOLANO COUNTY

The California Regional Water Quality Control Board, Central Valley Region (hereafter Regional Board), finds that:

1. Salad Cosmo USA Corporation (hereafter known as Discharger) submitted a Report of Waste Discharge (RWD) dated 29 April 2003 for the discharge of food processing waste to land. Additional information necessary to complete the RWD was submitted on 10 July 2003.

2. The Salad Cosmo facility is in portions of Section 21, T7N, R1E, MDB&M, as shown on Attachment A, which is attached hereto and made part of the Order by reference. The facility is on Assessor's Parcel Nos. 109-030-03, 109-030-04, and 109-060-01 at 5944 Dixon Avenue West in Dixon.

3. Order No. 98-152, adopted by the Regional Board on 24 July 1998, prescribes requirements for discharge of seed sprouting process wastewater to land to irrigate crops. The Discharger has applied for a revised Order to allow increased flows resulting from an operational expansion.

Existing Facility and Operations

4. The Discharger operates a commercial seed sprouting and packaging facility. The sprouts are marketed for restaurant use and retail sale through grocery stores. The facility has been in operation since 1998.

5. The facility comprises three parcels totaling 232 acres. The processing plant and wastewater storage pond are on a 68-acre parcel. The remainder of this parcel and two adjacent parcels are used for growing crops.

6. The Discharger processes and stores beans, broccoli seeds, sesame seeds, alfalfa seeds, and radish seeds indoors. Some seed crops such as alfalfa, mung bean, and radishes are grown on-site, and others are imported or purchased from other growers. Bulk seeds for sprouting are received at a loading dock and placed in seed storage rooms. Most seed types are sprouted in climate-controlled darkened rooms, but radish seeds are sprouted in greenhouses.

7. Seeds are placed in large metal-wheeled bins. Water is added to the bins to start germination and as needed during sprouting. When the sprouts have reached the desired size, they are washed and cooled with chilled water. They are then packaged and moved to a refrigerated delivery staging area, where boxes of packages are loaded onto trucks for transport.

8. The sprouting operation is 24 hours per day year round, including weekends, and the types of seeds in use at any time depends on market demand.

9. Water for sprouting, sprout washing, and facility cleaning is produced by an on-site well. The supply water is chlorinated prior to storage in the facility's storage tank, and washed seeds are soaked in a chlorine solution for 15 minutes prior to rinsing and transfer to the sprouting bins.

10. Process wastewater is routed via a series of pipes and trench drains originating inside the sprouting facilities through a rotary screen. Prior to discharge into the wastewater storage pond, the wastewater is filtered through an 80-foot long trench filled with crushed rock. These features are depicted on Attachment B, which is attached hereto and made part of the Order by reference.

11. The wastewater storage pond covers approximately seven acres and is seven feet deep. It is an excavated pond with steep interior walls. The total storage capacity at two feet of freeboard is approximately 11.4 million gallons.

12. Wastewater stored in the pond is used to irrigate adjacent cropland owned by the Discharger and leased to a farmer. The Discharger maintains sole control of wastewater application to the fields. The cropland and irrigation systems are shown on Attachment C, which is attached hereto and made part of the Order by reference.

Violations of Waste Discharge Requirements

13. On 15 January and 25 February 2003, staff inspected the facility in response to a citizen complaint. The complainant alleged that flows to the wastewater storage ponds routinely exceed the flow limit set forth in WDRs Order No. 98-152. The complainant also alleged that wastewater was routinely discharged directly to McCune Creek.

14. During the first inspection, the fields adjacent to the pond and McCune Creek were flooded due to ongoing discharge of wastewater from the pond and staff was unable to investigate the allegation of surface water discharges. Large piles of green waste and reject sprouts were observed in the area adjacent to the pond. The Discharger acknowledged that flows routinely exceeded the flow limits set forth in Order No. 98-152, but denied that there was any discharge of wastewater to the creek. Staff subsequently requested a revised RWD on 23 January 2003.

15. On 25 February 2003, staff returned to the site to complete the complaint investigation and observed that there were no water distribution systems in place to allow the discharger to use the stored wastewater for irrigation of the fields as required by Order No. 98-152. The three-acre field immediately west of the pond slopes towards McCune Creek, and it appeared that the Discharger's standard practice was to pump water from the pond into the three-acre field for disposal. Staff observed an excavated pit at the low end of the field, which had apparently been designed to collect any excess wastewater. Staff also observed a large culvert between the pit and the adjacent McCune Creek. The culvert had no valves and there were no visible means of controlling discharge to the creek.

16. On 10 March 2003, staff issued a Notice of Violation citing the Discharger for discharges of waste to surface waters, exceeding the flow limit set forth in the WDRs, and failure to submit monitoring reports. The NOV required that the Discharger submit a technical report documenting improvements and operational modifications completed to cease the surface water discharge and comply with the WDRs.

Current Conditions and Discharge

17. According to the RWD, the average daily wastewater flow from the plant to the wastewater storage pond is 130,000 gpd and will increase to 200,000 gpd by the end of 2003.

18. Based on information submitted by the Discharger in response to the 10 March 2003 NOV, two fields totaling approximately 42 acres have been improved with pipelines to deliver wastewater to the head of the fields, tailwater control berms, and tailwater return systems. These improvements are depicted on Attachment C, which is attached hereto and made part of the Order by reference. The Discharger also converted the pit to a tailwater return pumping station for the field northwest of the pond, and installed a valve to allow selective release of storm water runoff into McCune Creek.

19. The Discharger obtained and analyzed samples of process wastewater to support the RWD in March 2003. The analytical results for the process wastewater are summarized below.

Constituent/Parameter	Analytical Result
Total dissolved solids (mg/L)	260
Total suspended solids (mg/L)	14
Biochemical oxygen demand (mg/L)	3.0
Chloride (mg/L)	24
Chlorine Residual (mg/L)	0.11
Total trihalomethanes (µg/L)	2.4
Bromodichloromethane (µg/L)	< 0.5
Bromoform (µg/L)	< 0.5
Chloroform (µg/L)	2.4
Dibromochloromethane (µg/L)	< 0.5
Total Kjeldahl nitrogen (mg/L)	2.5
Nitrate nitrogen (mg/L)	< 0.23

The residual chlorine results provided by the Discharger are consistent with analytical results for a wastewater pond sample obtained by staff in August 2001. The concentration of chloroform exceeds the limiting water quality goal for protection of the beneficial uses of groundwater, which is 1.1 µg/L.

20. The irrigation fields are typically planted in alfalfa, but other crops may be grown. The fields are flood irrigated in accordance with the water needs of the crop. Supplemental fertilizers are typically not used.

21. The Discharger's water balance indicates there will be adequate land disposal and storage capacity to accommodate a flow rate of 280,000 gpd on average with the 42 acres currently in use for irrigation.

22. The sprouting operation generates approximately 600 to 1,000 pound per day of green waste, which consists of plant debris and rejected batches of sprouts. The moisture content of the green waste is approximately 90 to 95 percent. No other analytical data for this waste was presented in the RWD.

23. The green waste is stored temporarily in a plastic-lined area northeast of the wastewater storage pond. The green waste is spread in a designated land application area northwest of the storage pond several times per year (weather permitting during the rainy season). The green waste is disced to incorporate it into the soil.

24. In the future, the Discharger may also have green waste hauled off-site for use as an agricultural soil amendment.

25. Domestic wastewater generated at the processing facility is discharged to a septic system permitted by the Solano County Environmental Health Department. Its location is shown on Attachment B.

Proposed Changes in the Discharge

25. The Discharger plans to expand its operations within the existing facility over the next five years. Expected average daily wastewater flows will increase to 260,000 gpd in 2006 and to 390,000 gpd in 2008. The green waste production rate will increase commensurately.

26. To support an average daily flow of 390,000 gpd, an additional 30 acres of irrigated crops will be needed. The Discharger therefore intends to expand the existing wastewater irrigation area to include other fields it owns. Irrigation supply and tailwater management systems will be constructed in the remainder of the parcel northwest of the sprouting facility. The Discharger also owns additional land on the west side of McCune Creek (Parcel 1 and the western portion of Parcel 3) and north of the existing irrigation area in Parcel 2, as shown on Attachment C.

Site-Specific Conditions

27. The site is relatively level at an elevation of approximately 75 feet above mean sea level (MSL), and McCune Creek traverses the croplands owned by the Discharger.

28. The sprouting facility is elevated with respect to the surrounding grade and storm water runoff from the facility will generally be towards the southern portion of the facility site where it will either infiltrate or be discharged via existing drainage ditches. The pond is protected from run-on by a small earthen berm.

29. Surface soils at the land application sites are primarily Capay silty clay loam. Some Capay clay and Yolo silty clay loam are also present. The soils have relatively low to moderately low permeabilities.

30. The average annual precipitation in the vicinity of the facility is 17.3 inches, and the 100-year total annual precipitation is 31.4 inches.

31. The reference evapotranspiration rate (ET_0) for the Davis area is approximately 52 inches.

Groundwater Considerations

32. The Discharger has not completed a site-specific subsurface investigation to assess the occurrence and chemical quality of groundwater beneath the facility site. However, based on data from nearby monitored facilities, shallow groundwater may be present at approximately 20 to 35 feet below the ground surface.

33. In general, the high quality of the processing wastewater indicates that its use for crop irrigation should not pose a threat to groundwater quality. However, the Discharger has not shown that trihalomethanes present in the stored wastewater will be attenuated in the soil underlying the pond. Therefore, it is appropriate to require that Discharger either demonstrate adequate assimilative capacity or monitor groundwater beneath the storage pond.

Special Considerations for Food Processing Waste

34. Excessive application of high-strength food processing wastewater to land application areas can create objectionable odors and degradation of underlying groundwater by overloading the shallow soil profile and causing waste constituents (organic carbon, nitrate, other salts, and metals) to percolate below the effective treatment zone. The Discharger's wastewater exhibits low concentrations of degradable organic compounds, salinity species, and nutrients, and will be applied at low loading rates. Green waste applied to land in accordance with an appropriate management plan should also pose no threat to groundwater quality.

35. According to *Pollution Abatement in the Fruit and Vegetable Industry*, published by the United States Environmental Protection Agency (US EPA Publication No. 625/3-77-0007) (hereafter *Pollution Abatement*), in applying food-processing wastewater to land for biological treatment, the loading of BOD_5 should not exceed 100 lbs/acre/day (as a cycle average) to prevent nuisance odors. At this facility, the BOD_5 concentration of the wastewater is minimal, and the loading rates as proposed should pose no threat of nuisance odor.

36. Acidic soil conditions can be detrimental to land treatment system function, and may cause groundwater degradation. The wastewater characterization data presented in the RWD indicates that the discharge will not create acidic soil conditions.

37. Pursuant to California Water Code Section 13263(g), discharge is a privilege, not a right, and issuance of this Order does not create a vested right to continue the discharge. Failure to provide

the level of management required to assure best practicable treatment and control, preclude conditions that threaten degradation or nuisance, and protect groundwater quality will be sufficient reason to enforce this Order, modify it, or revoke it and prohibit further discharge. This Order prescribes limits for BOD loading, nutrient loading, water application rates, and pH, but it remains the responsibility of the Discharger to assure that its waste loading practices do not degrade groundwater or create a condition of pollution or nuisance. Acceptable loading rates established in this Order are subject to change if performance is not as represented.

Basin Plan, Beneficial Uses, and Regulatory Considerations

38. The Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fourth Edition, (hereafter Basin Plan) designates beneficial uses, establishes water quality objectives, contains implementation plans and policies for protecting waters of the basin, and incorporates by reference plans and policies adopted by the State Board. Pursuant to Section 13263(a) of the California Water Code, waste discharge requirements must implement the Basin Plan.

39. Surface water drainage is to McCune Creek, which is tributary to Sweany Creek and the Yolo Bypass. The beneficial uses of the Yolo Bypass are agricultural supply; water contact recreation; non-contact water recreation; warm freshwater habitat; cold freshwater habitat; migration of warm and cold water aquatic organisms; spawning, reproduction, and/or early development of warm water aquatic organisms; and wildlife habitat.

40. The beneficial uses of underlying groundwater are municipal and domestic water supply, agricultural supply, industrial service supply, and industrial process supply.

41. State Board Resolution No. 68-16 prohibits degradation of groundwater quality unless it has been shown that:

    a. The degradation is consistent with the maximum benefit to the people of the State

    b. The degradation will not unreasonably affect present and anticipated future beneficial uses;

    c. The degradation does not cause exceedance of one or more water quality objectives; and

    d. The discharger employs best practicable treatment and control to minimize degradation.

    The Board has considered antidegradation pursuant to State Board Resolution No. 68-16, and finds that the Discharger has not provided the required demonstration to be allowed to cause groundwater degradation, and therefore none is authorized.

42. The Discharger has not shown that the trihalomethanes present in the wastewater storage pond will not cause groundwater degradation. Therefore, it is appropriate to require that the Discharger perform either a literature-based study or a field-based study. If the study shows that groundwater could be degraded, the Discharger must evaluate technology and source control measures to improve the quality of the waste to preclude the discharge being a continuing source of degradation. If the Discharger is unable to modify its waste stream or disposal methods such that groundwater quality will not be impacted, then the Discharger shall submit either technical

documentation that its treatment and control and resulting degradation are consistent with State Board Resolution No. 68-16 or a plan for full containment pursuant to Title 27 of the California Code of Regulations, Section 20005 et seq. (hereafter Title 27).

43. Federal regulations for storm water discharges promulgated by the U.S. Environmental Protection Agency (40 CFR Parts 122, 123, and 124) require specific categories of facilities which discharge storm water to obtain NPDES permits. All outdoor handling and process areas drain to the wastewater disposal system. Therefore, it is appropriate to require that the Discharger file a Notice of Non-Applicability, apply for a No Exposure Certification, or obtain coverage for its processing facility under the State Board's Water Quality Order No. 97-03-DWQ to comply with those regulations.

44. Section 13267(b) of California Water Code provides that: "In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of discharging, or who proposes to discharge within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of discharging, or who proposes to discharge waste outside of its region that could affect the quality of the waters of the state within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the board requires. The burden, including costs of these reports, shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports."

The monitoring and reporting program required by this Order and the attached Monitoring and Reporting Program No. R5-2003-0159 are necessary to assure compliance with these waste discharge requirements. The Discharger operates the facility that discharges the waste subject to this Order.

45. State regulations that prescribe procedures for detecting and characterizing the impact of waste constituents from waste management units on groundwater are found in Title 27. Although the Discharger's facility is exempt from Title 27, the data analysis methods of Title 27 may be appropriate for determining whether the discharge complies with the groundwater protection requirements specified in this Order.

46. On 24 July 1998, the Regional Board adopted Resolution No. 98-151 approving an Initial Study and Adopting a Negative Declaration in accordance with the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000, *et seq.*) and the State CEQA Guidelines.

47. On 26 January 1999, the Solano County Planning Commission certified a Negative Declaration for expansion of the seed sprouting facilities.

48. Although the current and planned wastewater flow rates exceed those envisioned in the Initial Study and approved Negative Declaration, the processing facility, wastewater storage pond, and the crop irrigation areas envisioned in those documents will not change. The action to adopt revised waste discharge requirements for the facility is exempt from the provisions of the California Environmental Quality (CEQA), in accordance with Title 14 CCR, Section 15301.

49. This discharge is exempt from the requirements of *Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste*, as set forth in Title 27, CCR, Division 2, Subdivision 1, Section 20005, et seq., (hereafter Title 27). The exemption pursuant to Section 20090(b), is based on the following:

    a. The Regional Board is issuing waste discharge requirements,

    b. The discharge complies with the Basin Plan, and

    c. The wastewater does not need to be managed according to Title 22 CCR, Division 4.5, and Chapter 11, as a hazardous waste.

Public Notice

50. All the above and the supplemental information and details in the attached Information Sheet, which is incorporated by reference herein, were considered in establishing the following conditions of discharge.

51. The Discharger and interested agencies and persons have been notified of the intent to prescribe waste discharge requirements for this discharge, and they have been provided an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

52. All comments pertaining to the discharge were heard and considered in a public meeting.

IT IS HEREBY ORDERED that, pursuant to Sections 13263 and 13267 of the California Water Code, Order No. 98-152 is rescinded and Salad Cosmo USA Corporation and its agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, shall comply with the following:

[Note: Other prohibitions, conditions, definitions, and some methods of determining compliance are contained in the attached "Standard Provisions and Reporting Requirements for Waste Discharge Requirements" dated 1 March 1991.]

A. Discharge Prohibitions:

1. Land application of wastewater to areas other than those described in Finding Nos. 18 and 26 is prohibited.

2. Land application of wastewater to any field that does not have a fully functional tailwater return and runoff control system is prohibited.

3. Discharge of residual solids or unscreened wastewater to the storage pond is prohibited.

4. Discharge of wastes to surface waters or surface water drainage courses is prohibited.

5. Discharge of irrigation tailwater from any of the designated land application areas to McCune Creek via overland flow or drain outfall structures is prohibited.

6. Discharge of waste classified as hazardous, as defined in Sections 2521(a) of Title 23, CCR, Section 2510, et seq., (hereafter Chapter 15), or 'designated', as defined in Section 13173 of the California Water Code, is prohibited.

B. Discharge Specifications:

1. The monthly average flow to the wastewater storage pond shall not exceed 280,000 gpd unless the Executive Officer approves in writing a technical report submitted pursuant to Provision G.2. The monthly average flow shall not exceed the flow approved by the Executive Officer, and in no case shall it exceed 390,000 gpd.

2. Objectionable odors originating at the processing facility and all land application areas shall not be perceivable beyond the respective property limits.

3. As a means of discerning compliance with Discharge Specification No. 2, the dissolved oxygen content in the upper one foot of any pond shall not be less than 1.0 mg/l.

4. The processing facility, green waste storage and disposal areas, and irrigation areas shall be managed to prevent breeding of mosquitoes and other vectors. Specifically:
   a. All wastewater applied to land must infiltrate completely within 48 hours.
   b. Low-pressure pipelines, unpressurized pipelines, and ditches that are accessible to mosquitoes shall not be used to store wastewater.

5. The wastewater storage pond shall also be managed to prevent breeding of mosquitoes. Specifically:
   a. Erosion control measures shall be implemented to minimize small coves and irregularities around the perimeter of the water surface.
   b. Weeds within and around the perimeter of the pond shall be minimized through control of water depth, harvesting, or herbicides.
   c. Dead algae, vegetation, and debris shall not accumulate on the water surface.

6. All treatment, storage, and disposal facilities shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.

7. No waste constituent shall be released or discharged, or placed where it will be released or discharged, in a concentration or in a mass that causes violation of the Groundwater Limitations.

8. The facility shall have sufficient treatment, storage, and disposal capacity to accommodate allowable wastewater flow and design seasonal precipitation during the winter months. Design

seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns.

9. Freeboard in any pond shall never be less than two feet as measured from the water surface to the lowest point of overflow.

10. On or about **15 October** of each year, available pond storage capacity shall at least equal the volume necessary to comply with Discharge Specifications B.8 and B.9.

11. The Discharger shall implement Best Practicable Treatment and Control (BPTC) technology to comply with the Groundwater Limitations of this Order.

12. Neither the treatment nor the discharge shall cause a condition of nuisance or pollution as defined by the California Water Code, Section 13050.

C. Effluent Limitations

Discharge of wastewater to the storage pond shall not exceed the following limits.

Parameter/Constituent	Effluent Limit
PH	6.5 to 8.4 [1]
BOD_5	30 mg/L
Total nitrogen	10 mg/L

[1] Allowable range.

D. Land Application Area Specifications

1. Hydraulic loading of wastewater shall be at rates designed to minimize percolation below the evaporative zone, except as needed to promote surface soil chemistry that is consistent with sustainable agricultural land uses.

2. Irrigation with wastewater shall not be performed within 24 hours before a predicted storm, during precipitation, or within 24 hours after the end of any precipitation event, nor shall it be performed when the ground is saturated.

3. There shall be no standing water in any portion of the irrigation fields more than 48 hours after application of wastewater ceases.

4. The Discharger may allow storm water runoff to be released into McCune Creek only when at least 48 hours have elapsed since the end of the last irrigation event.

5. The wastewater discharge system shall be designed and managed to ensure even application of wastewater over each irrigation field.

6. Wastewater application rates for the irrigation areas shall comply with the following:

   a. Mass loading rates for all wastewater constituents shall neither exceed the assimilative capacity of the soil nor cause groundwater degradation; and

   b. Degradable organic (BOD) mass loading rates shall not create a nuisance and shall not degrade groundwater quality.

7. The discharge shall not cause the buffering capacity of the soil profile to be exceeded.

8. The Discharger shall provide and maintain the following setbacks for all wastewater and solids disposal areas:

Setback Definition	Surface Irrigation Setback (feet)
Edge of irrigated area[1]/solids disposal area to public property (e.g., street)	10
Edge of irrigated area to other agricultural property	0
Edge of irrigated area/solids disposal area to occupied residence	50

[1] As defined by the wetted area produced during irrigation.

9. Application of process wastewater shall only occur where checks are graded to provide uniform water distribution, minimize ponding, and provide complete tailwater control.

10. Check runs shall be no longer, and slopes shall be no greater, than that which permits uniform infiltration and maximum practical irrigation efficiency.

11. Irrigation or impoundment of wastewater shall not occur within 50 feet of any domestic well unless it is demonstrated to the satisfaction of the Executive Officer that a shorter distance is justified.

12. Tailwater ponds and ditches shall be maintained essentially free of emergent, marginal, and floating vegetation.

E. Solids Disposal Requirements:

1. Collected screenings, sludge, and other solids generated at the processing facility shall be disposed of in a manner approved by the Executive Officer, and consistent with *Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste*, as set forth in Title 27, CCR, Division 2, Subdivision 1, Section 20005, et seq.

2. The Discharger's current method of disposal for residual solids is acceptable to the Executive Officer if the management plan described in the RWD continues to be implemented. Any

proposed change in solids use or disposal practice shall be reported to the Executive Officer at least 90 days in advance of the change.

F. Groundwater Limitations:

The discharge shall not cause underlying groundwater to contain any chemical constituent in concentrations greater than natural background water quality.

G. Provisions:

1. The following reports shall be submitted pursuant to Section 13267 of the California Water Code and shall be prepared as described in Provision G.3:

   a. **By 30 January 2004**, the Discharger shall submit to the Regional Board either a Notice of Non-Applicability, an application for a No Exposure Certification, or a Notice of Intent to comply with State Board Water Quality Order No. 97-03-DWQ for discharges of storm water from the facility.

   b. **By 29 February 2004**, the Discharger shall submit one of the following:

      i. A technical report demonstrating that the trihalomethanes present in the wastewater storage pond do not pose a threat to groundwater quality. The study shall be based on a combination of site-specific characteristics, wastewater characteristics, and published information on attenuation of trihalomethanes in saturated and semi-saturated soil.

      ii. A workplan for completion of a one-time groundwater sampling event designed to determine whether trihalomethanes are present in groundwater underlying the storage pond. At least three locations near the edge of the storage pond shall be sampled.

      iii. A workplan for installation of lysimeters to monitor trihalomethanes in soil pore water below the base of the pond; or

      iv. A workplan for installation of at least three groundwater monitoring wells near the storage pond.

      Any workplan shall be prepared in accordance with, and shall include the items listed in, the first section of Attachment D: *"Groundwater/Vadose Zone Monitoring Workplan and Monitoring Well/Lysimeter Installation Report Guidance."* Any groundwater monitoring program shall be designed to yield samples representative of the uppermost portion of the first aquifer underlying the pond.

   c. If the Discharger elects to perform one-time groundwater sampling, vadose zone monitoring, or groundwater monitoring, **by 30 July 2004**, the Discharger shall submit an *Installation Report* prepared in accordance with, and including the items listed in, the second section of Attachment D: *"Groundwater/Vadose Zone Monitoring Workplan and Monitoring Well/Lysimeter Installation Report Guidance."* The report shall describe the subsurface

investigation, installation of the selected monitoring system, and explain any deviation from the approved workplan.

2. If the Discharger wishes to apply for approval of an increase in the average daily flow specified in Discharge Specification B.1, then the Discharger shall submit a technical report showing that sufficient land disposal capacity is available. The report shall document the location and construction details of any new irrigations checks, and shall include as-built drawings depicting the details of all wastewater conveyance and tailwater control systems. It shall specify the usable surface area of the new checks and provide a water balance showing that the increased flow can be accommodated without changes in the typical application depth and cycle time. In no case shall the average daily flow exceed 390,000 gpd.

3. All technical reports required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geological sciences, shall be prepared by, or under the direction of, persons registered to practice in California pursuant to California Business and Professions Code sections 6735, 7835, and 7835.1. To demonstrate compliance with section 415 and 3065 of Title 16, CCR, all technical reports, must contain a statement of the qualifications of the responsible registered professional(s). As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.

4. The Discharger shall comply with Monitoring and Reporting Program No. R5-2003-0159, which is a part of this Order, and any revisions thereto as ordered by the Executive Officer.

5. The Discharger shall comply with the "Standard Provisions and Reporting Requirements for Waste Discharge Requirements", dated 1 March 1991, which are attached hereto and by reference a part of this Order. This attachment and its individual paragraphs are commonly referenced as "Standard Provision(s)."

6. At least 90 days prior to termination or expiration of any lease, contract, or agreement involving the land application areas that is used to justify the capacity authorized herein and assure compliance with this Order, the Discharger shall notify the Regional Board in writing of the situation and of what measures have been taken or are being taken to assure full compliance with this Order.

7. The Discharger shall submit to the Regional Board on or before each compliance report due date the specified document, or if appropriate, a written report detailing compliance or noncompliance with the specific schedule date and task. If noncompliance is reported, then the Discharger shall state the reasons for noncompliance and shall provide a schedule to come into compliance.

8. The Discharger shall report promptly to the Regional Board any material change or proposed change in the character, location, or volume of the discharge.

9. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, then 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 this office.

10. The Discharger shall comply with all conditions of this Order, including timely submittal of technical and monitoring reports as directed by the Executive Officer. Violations may result in enforcement action, including Regional Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.

11. A copy of this Order shall be kept at the discharge facility for reference by operating personnel. Key operating personnel at each land application property shall be familiar with its contents.

12. The Regional Board will review this Order periodically and will revise requirements when necessary.

I, THOMAS R. PINKOS, 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, Central Valley Region, on 17 October 2003.

_____
THOMAS R. PINKOS, Executive Officer

ALO:10/17/03

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2003-0159

FOR
SALAD COSMO USA CORPORATION
DIXON SPROUT FACILITY
SOLANO COUNTY

The Discharger shall comply with this Monitoring and Reporting Program (MRP), issued pursuant to Water Code Section 13267, which describes requirements for monitoring the industrial process wastewater and groundwater. The Discharger shall not implement any changes to this MRP unless and until a revised MRP is issued by the Executive Officer.

All samples shall be representative of the volume and nature of the discharge or matrix of material sampled. The time, date, and location of each sample shall be recorded on the sample chain of custody form. Field test instruments (such as those used to measure pH and dissolved oxygen) may be used provided that:

1. The operator is trained in proper use and maintenance of the instruments;
2. The instruments are field-calibrated prior to each monitoring event;
3. The instruments are serviced and/or calibrated by the manufacturer at the recommended frequency; and
4. Field calibration reports are submitted as described in the "Reporting" section of the MRP.

POND INFLUENT MONITORING

Influent wastewater samples shall be collected just prior to discharge to the wastewater storage pond (grab samples collected from a common pipeline or sump after the screening system will be considered representative). At a minimum, the Discharger shall monitor the influent wastewater as follows:

Constituent/Parameter	Units	Sample Type	Sampling Frequency	Reporting Frequency
Flow into pond	gpd	Meter Observation	Daily	Monthly
Flow from pond to irrigation areas [1]	gpd, inches	Pump Run Time Estimate [2]	Daily	Monthly
pH	pH units	Grab	Monthly	Monthly
Total dissolved solids	mg/L	Grab	Monthly	Monthly
BOD_5 [3]	mg/L	Grab	Monthly	Monthly
Total Kjeldahl nitrogen	mg/L	Grab	Monthly	Monthly
Nitrate nitrogen	mg/L	Grab	Monthly	Monthly
Chlorine residual	mg/L	Grab	Monthly	Monthly

Constituent/Parameter	Units	Sample Type	Sampling Frequency	Reporting Frequency
Trihalomethanes	µg/L	Grab	Monthly	Monthly

[1] Monitor and report total daily flow to each discrete irrigation area or check.

[2] Based on pump run time meter reading, total head, and pump performance curve for outlet size used.

[3] 5-day, 20ºC Biochemical Oxygen Demand.

WASTEWATER STORAGE POND MONITORING

The wastewater storage pond shall be monitored as follows:

Constituent	Units	Type of Sample	Sampling Frequency	Reporting Frequency
Freeboard	0.1 feet	Measurement	Weekly	Monthly
Odors	--	Observation	Weekly	Monthly
Dissolved oxygen	mg/L	Measurement	Weekly	Monthly

LAND APPLICATION AREA MONITORING

A. Daily Inspections

The Discharger shall inspect each field prior to irrigating with wastewater, and observations from those inspections shall be documented for inclusion in the monthly monitoring reports. The following items shall be documented for each disposal check to be irrigated on that day:

1. Evidence of erosion;
2. Berm condition;
3. Soil saturation;
4. Ponding and/or potential for uneven wastewater distribution;
5. Potential runoff to off-site areas;
6. Potential and actual discharge to surface water;
7. Odors;
8. Presence of putrescent residual solids in solids storage and disposal areas; and
9. Insects.

B. Routine Monitoring

The Discharger shall perform the following routine monitoring and loading calculations, and shall present the data in the Monthly and Annual Monitoring Reports.

Constituent	Units	Type of Sample	Sampling Frequency	Reporting Frequency
Precipitation	0.1 in.	Rain Gauge	Daily	Monthly, Annually
Wastewater Irrigation				
Fields/checks receiving wastewater	--	Observation	Daily	Monthly, Annually
Hydraulic loading rate	in.	Calculated [1]	Daily	Monthly, Annually
Residual Solids				
Mass generated at facility	lb.	Observation	Daily	Monthly, Annually
Mass applied to land	lb.	Observation	Daily	Monthly, Annually
Dates of soil incorporation	--	Observation	Daily	Monthly, Annually
Mass disposed of off-site	lb.	Observation	Daily	Monthly, Annually

[1] Rate shall be calculated for each disposal check.

GROUNDWATER MONITORING

Groundwater monitoring is only required if the Discharger selects the fourth option described in Provision G.1.b of the WDRs, or if requested in writing by the Executive Officer. Prior to construction and/or sampling of any groundwater monitoring wells, the Discharger shall submit plans and specifications to the Board for review and approval. Once installed, all new wells shall be added to the MRP and shall be sampled and analyzed according to the schedule below.

Prior to sampling, the groundwater elevations shall be measured and the wells shall be purged at least three well volumes until temperature, pH and electrical conductivity have stabilized. Depth to groundwater shall be measured to the nearest 0.01 feet. Samples shall be collected and analyzed using standard EPA methods. Groundwater monitoring shall begin in the third quarter of 2004 and shall include, at a minimum, the following:

Constituent/Parameter	Units	Sample Type	Sampling and Reporting Frequency [3]
Depth to Groundwater	0.01 feet	Measurement	Quarterly
Groundwater Elevation [1]	0.01 feet	Calculated	Quarterly
Gradient Magnitude	feet/feet	Calculated	Quarterly
Gradient Direction	degrees	Calculated	Quarterly
pH	pH Units	Grab	Quarterly
Total Dissolved Solids	mg/L	Grab	Quarterly

Constituent/Parameter	Units	Sample Type	Sampling and Reporting Frequency [3]
Total Kjeldahl Nitrogen	mg/L	Grab	Quarterly
Nitrate Nitrogen	mg/L	Grab	Quarterly
Chloride	mg/L	Grab	Quarterly
Trihalomethanes	µg/L	Grab	Quarterly
Other Salinity Species [2]	mg/L	Grab	Annually

[1] Groundwater elevation shall be determined based on depth-to-water measurements using a surveyed measuring point elevation on the well and a surveyed reference elevation.

[2] Includes chloride, iron, magnesium, manganese, sodium, potassium, and sulfate. Samples for iron and manganese shall be filtered with a 0.45-micron filter prior to sample preservation.

[3] Sampling shall commence the third quarter of 2004.

REPORTING

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type (e.g., influent, groundwater), sampling location, and the reported analytical result for each sample are readily discernible. The data shall be summarized in such a manner to clearly illustrate compliance with waste discharge requirements and spatial or temporal trends, as applicable. The results of any monitoring done more frequently than required at the locations specified in the Monitoring and Reporting Program shall be reported in the next scheduled monitoring report.

As required by the California Business and Professions Code Sections 6735, 7835, and 7835.1, all groundwater monitoring reports shall be prepared under the direct supervision of a California-registered geologist and signed by the registered professional.

A. Monthly Monitoring Reports

Monthly reports shall be submitted to the Regional Board on the **1st day of the second month following sampling** (i.e., the January report is due by 1 March). Monthly reports shall be submitted regardless of whether process wastewater is generated. At a minimum, the reports shall include:

1. Results of storage pond, influent, and land application area monitoring. Data shall be presented in tabular format.

2. Daily pre-application inspection reports.

3. A comparison of monitoring data to the discharge specifications and applicable limitations and an explanation of any violation of those requirements.

4. When requested by staff, copies of laboratory analytical report(s).

5. Calibration log(s) verifying calibration of any field monitoring instruments (e.g., DO, pH, and EC meters) used to obtain data.

6. Daily discharge volumes and acres irrigated shall be tabulated, and the report shall include a discussion of the discharge volumes and irrigation practices used (method of application, application period/duration, drying times, etc.) for each check or group of checks utilized during the month. Hydraulic loading rates (inches/acre/month) shall be calculated.

B. Quarterly Groundwater Monitoring Reports

Quarterly Groundwater Monitoring Reports are only required if the Discharger selects the fourth option described in Provision G.1.b of the WDRs, or if requested in writing by the Executive Officer. The Discharger shall establish a quarterly sampling schedule for groundwater monitoring such that samples are obtained approximately every three months. Quarterly monitoring reports shall be submitted to the Board by the **1st day of the second month after the quarter** (e.g., the January-March quarter is due by May 1st) each year. The Quarterly Report shall include the following:

1. Results of groundwater monitoring.

2. A narrative description of all preparatory, monitoring, sampling, and analytical testing activities for the groundwater monitoring. The narrative shall be sufficiently detailed to verify compliance with the WDR, this MRP, and the Standard Provisions and Reporting Requirements. The narrative shall be supported by field logs for each well documenting depth to groundwater; parameters measured before, during, and after purging; method of purging; calculation of casing volume; and total volume of water purged.

3. Calculation of groundwater elevations, an assessment of groundwater flow direction and gradient on the date of measurement, comparison of previous flow direction and gradient data, and discussion of seasonal trends if any.

4. A narrative discussion of the analytical results for all groundwater locations monitored including spatial and temporal tends, with reference to summary data tables, graphs, and appended analytical reports (as applicable).

5. A comparison of monitoring data to the groundwater limitations and an explanation of any violation of those requirements.

6. Summary data tables of historical and current water table elevations and analytical results.

7. A scaled map showing relevant structures and features of the facility, the disposal check boundaries, the locations of monitoring wells, and groundwater elevation contours referenced to mean sea level datum.

8. Copies of laboratory analytical report(s) for groundwater monitoring.

C. Annual Report

An Annual Report shall be prepared as the fourth quarter monitoring report. The Annual Report will include all monitoring data required in the monthly/quarterly schedule. The Annual Report shall be submitted to the Regional Board by **1 February** each year. In addition to the data normally presented, the Annual Report shall include the following:

1. If requested by staff, tabular and graphical summaries of all data collected during the year with data arranged to confirm compliance with the WDRs.

2. Tabular and graphical summaries of historical monthly total loading rates for water (hydraulic loading in gallons and inches).

3. An evaluation of the performance of the pretreatment system and land application sites.

4. A comprehensive evaluation of the effectiveness of the past year's wastewater application operation in terms of odor control and groundwater protection, including consideration of application management practices (i.e.: hydraulic loadings, application cycles, and drying times) and groundwater monitoring data (if applicable).

5. If groundwater monitoring is performed, an evaluation of the groundwater quality at the facility.

6. A discussion of compliance and the corrective action taken, as well as any planned or proposed actions needed to bring the discharge into full compliance with the waste discharge requirements.

7. A discussion of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program.

A letter transmitting the self-monitoring reports shall accompany each report. Such a letter shall include a discussion of requirement violations found during the reporting period, and actions taken or planned for correcting noted violations, such as operation or facility modifications. If the Discharger has previously submitted a report describing corrective actions and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory. The transmittal letter shall contain the penalty of perjury statement by the Discharger, or the Discharger's authorized agent, as described in the Standard Provisions General Reporting Requirements Section B.3.

The Discharger shall implement the above monitoring program as of the date of this Order.

THOMAS R. PINKOS, Executive Officer

17 October 2003
(date)

ALO:10/17/2003

INFORMATION SHEET

ORDER NO. R5-2003-0159
SALAD COSMO USA CORPORATION
DIXON SPROUT FACILITY
SOLANO COUNTY

Salad Cosmo USA Corporation operates a commercial seed sprouting and packaging facility in Dixon, Yolo County. The sprouts are marketed for restaurant use and retail sale through grocery stores. The facility comprises three parcels totaling 232 acres. Bulk seeds for sprouting are received at a loading dock and placed in seed storage rooms. Most seed types are sprouted in climate-controlled darkened rooms, but radish seeds are sprouted in greenhouses.

The sprouting operation is 24 hours per day year round, including weekends. Water for sprouting, sprout washing, and facility cleaning is produced by an on-site well. The supply water is chlorinated prior to storage in the facility's storage tank, and washed seeds are soaked in a chlorine solution for 15 minutes prior to rinsing and transfer to the sprouting bins.

Process wastewater is routed via a series of pipes and trench drains originating inside the sprouting facilities through a rotary screen. Prior to discharge into a wastewater storage pond, the wastewater is filtered through a crushed rock filter. The wastewater storage pond covers approximately seven acres and is 7 feet deep with a total storage capacity at two feet of freeboard is approximately 11.4 million gallons. Wastewater is used to irrigate adjacent cropland.

In February 2003, in response to a citizen complaint, staff observed that there were no water distribution systems in place to allow the discharger to use the stored wastewater for irrigation of the fields and that wastewater was typically pumped into a three-acre field for disposal. At the time of staff's inspection, there was a pit at the low end of the three-acre field apparently designed to collect excess wastewater and discharge it directly to McCune Creek via a culvert. Staff requested a revised Report of Waste Discharge and issued a Notice of Violation citing the Discharger for discharges of waste to surface waters, exceeding the flow limit set forth in the WDRs, and failure to submit monitoring reports. The NOV required that the Discharger submit a technical report documenting improvements and operational modifications completed to cease the surface water discharge and comply with the WDRs.

The average daily wastewater flow from the plant to the wastewater storage pond is 130,000 gpd and will increase to 200,000 gpd by the end of 2003. Two fields totaling approximately 42 acres have been improved with pipelines to deliver wastewater to the head of the fields, tailwater control berms, and tailwater return systems. The Discharger also converted the pit to a tailwater return pumping station for the field northwest of the pond, and installed a valve to allow selective release of storm water runoff into McCune Creek.

The wastewater is very low strength, with a BOD_5 concentration of less than 10 mg/L, total dissolved solids less than 300 mg/L, minimal residual chlorine, and some trihalomethanes associated with the disinfection process. The Discharger's water balance indicates there will be adequate land disposal and storage capacity to accommodate a flow rate of 280,000 gpd on average with 42 acres in use for irrigation.

The Discharger plans to expand its operations within the existing facility over the next five years. Expected average daily wastewater flows will increase to 260,000 gpd in 2006 and to 390,000 gpd in 2008. In order to support an average daily flow of 390,000 gpd, an additional 30 acres of irrigated crops will be needed. The Discharger will therefore expand the existing wastewater irrigation area to

accommodate the increased flow rates as needed. The Discharger already owns the necessary expansion area.

The sprouting operation currently generates approximately 600 to 1,000 pound per day of green waste, which consists of plant debris and rejected batches of sprouts. The green waste is stored temporarily in a plastic-lined area northeast of the wastewater storage pond. The green waste is spread in a designated land application area northwest of the storage pond several times per year, and is disced to incorporate it into the soil. The Discharger may also haul off the green waste for use as a soil amendment elsewhere. Green waste production rates will increase as wastewater flows increase.

The site is relatively level at an elevation of approximately 75 feet above mean sea level (MSL), and is traversed by McCune Creek. Surface soils at the land application sites are primarily Capay silty clay loam. Some Capay clay and Yolo silty clay loam are also present. The soils have relatively low to moderately low permeabilities.

The Discharger has not completed a site-specific subsurface investigation to assess the occurrence and chemical quality of groundwater beneath the facility site. However, based on data from nearby monitored facilities, shallow groundwater may be present at approximately 20 to 35 feet below the ground surface.

Staff's derivation of certain Discharge Specifications and Limitations contained in this Order is discussed below.

Discharge Specification B.11
This Discharge Specification requires that the Discharger implement Best Practicable Treatment and Control (BPTC) to minimize the salinity of the wastewater. This specification is necessary to ensure that salt constituents can be assimilated by the soil column without causing groundwater degradation. The need for BPTC implementation can be determined only after background groundwater quality has been defined.

Effluent Limitations
The Effluent Limitation requires that the pH of the discharge remain between 6.5 and 8.4 to prevent groundwater degradation. Limits for effluent BOD and total nitrogen are also necessary to ensure that the quality of the wastewater remains essentially as described in the RWD. Given the low strength of the wastewater, the Discharger should be able to comply with these requirements without any additional treatment.

Technical Reports Required by the Provisions
The Discharger is required to submit a Notice of Non-Applicability, an application for a No Exposure Certification, or a Notice of Intent to comply with State Board Water Quality Order No. 97-03-DWQ for discharges of storm water from the facility.

Although the wastewater contains low levels of biodegradable organic compounds and salinity species, it is uncertain whether the trihalomethanes present in the wastewater storage pond pose a threat to groundwater quality. The Discharger has not provided sufficient information to show whether the

discharge is protective of the underlying groundwater. Therefore, this Order requires that the Discharger select one of four options to demonstrate that the trihalomethanes will be attenuated in the soil underlying the pond: a literature-based study that considers site-specific conditions, a one-time groundwater sampling event, soil pore liquid monitoring, or groundwater monitoring. Based on the outcome of the selected study, staff will assess whether the Discharger should be required to complete additional work. If appropriate, staff may also require that the Discharger implement source control, additional treatment, or other BPTC measures.

If the Discharger wishes to increase the average daily flow above the limits set forth in this Order, the Discharger must submit a technical report that documents the location and construction details of the new irrigation areas for the Executive Officer's approval.

ALO:30-Oct-03