

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2003-0113

WASTE DISCHARGE REQUIREMENTS
FOR
SOLANO CONCRETE COMPANY, INC.
MADISON PLANT
YOLO COUNTY

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

1. Solano Concrete Company, Inc. (hereafter Discharger) submitted a Report of Waste Discharge (RWD), dated 18 September 2002, to treat and dispose of industrial wastewater generated at its Madison Plant aggregate, asphalt, and ready-mix concrete facility. Additional information was submitted on 5 November 2002, 7 April 2003, 14 April 2003, and 9 June 2003.
2. The Madison Plant is at 30288 State Highway 16, Madison, and the facility site covers portions of Sections 22, 23, 25, 26, 27, 35, and 36 of T10N, R1W and Sections 30 and 31 of T10N, R1E, MDB&M as shown on Attachment A, which is attached hereto and made part of the Order by reference.
3. The facility comprises Assessor's Parcel Numbers 049-070-001, -004, -011, and -012. The land and processing equipment are owned by the Discharger.
4. Order No. 95-270, which prescribed requirements for land discharge of aggregate processing wastewater, was adopted by the Regional Board on 8 December 1995. This order is no longer adequate because the Discharger began operating a ready-mix concrete plant, which was not covered by Order No. 95-270, in January 2002.

Existing Facility and Discharge

5. The Discharger mines sand and gravel near the banks of Cache Creek, processing up to 8,000 tons of aggregate per day.
6. The sand/gravel processing equipment consists of wash screens, crushers, classifiers, and vibratory screens. Attachment A depicts the gravel processing facility and surrounding land that will ultimately be mined. The gravel processing facility layout is shown on Attachment B, which is attached hereto and made part of the Order by reference. Gold recovery is not performed.
7. Aggregate wash water and other process water is supplied by an on-site production well. The Discharger currently operates an 18-acre settling pond and a 10-acre "clean water pond" (Pond No. 4), which receives aggregate wash water. Pond Nos. 1 through 3 are no longer in use. The current wastewater pond locations are shown on Attachment C, which is attached hereto and made part of the Order by reference.

8. The settling pond currently has an average depth of ten feet with two feet of freeboard (180 acre-foot capacity), and the sedimentation rate is estimated to be ten inches (25,000 cubic yards) per year. Pond No. 4 is approximately 32 feet deep with a capacity of approximately 300 acre-feet at two feet of freeboard.
9. The ponds lie in a basin created by the completion of the first phase of mining (the Hutson parcel). The pond basin area is defined by a levee that provides an additional 1,000 acre-feet of storage and disposal capacity.
10. The typical wash water flow rate is two million gallons per day (mgd) and peak flows are estimated to be 2.5 mgd. No polymers or other flocculants are used.
11. On 9 June 2003, the Discharger submitted analytical data to characterize the discharge from the aggregate washing system. The analytical results are presented below, and are contrasted with limits used to implement the applicable water quality objectives for protection of the beneficial uses of the underlying groundwater.

Constituent	Aggregate Wash Water Concentration ¹	Process Water Supply Concentration ¹	Water Quality Limit ²
Arsenic ³	<0.005	<0.005	0.00002
Barium	0.58	<0.2	0.49
Calcium	32	52	NA
Chloride	60	57	106
Chromium, total ³	<0.010	<0.010	0.05
Chromium, hexavalent ³	<0.0050	0.0064	0.021
Copper ³	0.034	0.028	0.17
Lead ³	0.0049	0.0038	0.002
Magnesium	56	34	NA
Mercury ³	<0.0002	<0.0002	0.0012
Nitrate as NO ₃	38	32	45
Potassium	2.1	<2	NA
Sodium	22	43	20
Sulfate as SO ₄	44	36	250
Zinc ³	0.130	0.085	2.0
pH (std. units)	7.8	7.54	6.5 – 8.4
Total alkalinity	260	260	NA
Bicarbonate alkalinity	260	260	NA
Hardness	310	270	NA
Total dissolved solids	470	420	450

¹ mg/L unless otherwise noted.

² Or natural concentration in background groundwater, whichever is greater.

³ Samples filtered prior to preservation; results are for dissolved concentrations.

NA Not available.

12. Both the process supply water and the aggregate wash water contain lead at concentrations greater than water quality objectives for groundwater. The aggregate wash water also slightly exceeds the water quality objectives for total dissolved solids. Specifically, the beneficial uses of groundwater beneath the site are municipal, industrial, and agricultural supply, and:
 - a. The Toxicity objective of the Basin Plan prohibits concentrations of chemicals harmful humans, plants, or animals. In the case of lead in groundwater, the Toxicity objective is expressed as the California Public Health Goal (PHG), which is 2 µg/L.
 - b. The Chemical Constituents objective of the Basin Plan also prohibits concentrations of chemicals that could impair beneficial uses. The total dissolved solids concentrations slightly exceed the recommended agricultural water quality limit of 450 ug/L for sprinkler irrigation of sensitive crops (Ayers and Westcot, *Water Quality for Agriculture*, Food and Agriculture Organization of the United Nations, 1985).

Determination of whether the waste will degrade groundwater depends not only on dissolved concentrations, but also on background groundwater quality for those constituents. The analytical data indicate that crushing and washing aggregate at the facility does not significantly change the chemical character of the water used for washing. Additionally, based on the general hydrogeologic characteristics of the facility site (which are discussed later), there is no reason to believe that shallow groundwater is of better quality than that obtained from the supply well. Therefore, it is appropriate to presume that the discharge will not degrade water quality and to require that the Discharger continue to monitor the quality of both the supply water and the wash water in lieu of groundwater monitoring.

13. Because of the large basin area surrounding the wash water ponds, the facility's true wash water storage and disposal capacity is far greater than that provided by the ponds. Therefore, imposing a minimum freeboard requirement on each pond should be sufficient to prevent spills or overflow, and no flow limitation is necessary for aggregate washing operations.
14. The Discharger also manufactures ready-mix concrete. Aggregate blends are stored in bunkers and are conveyed to a weighing hopper. The aggregate, Portland cement, and fly ash (which are stored in watertight silos) are placed into mixer trucks along with water and any admixtures. Loaded mixer trucks proceed to a concrete-paved wash pad where the exterior of the vehicle is washed to remove cement and aggregate dust particles.
15. The truck wash water drains from the wash pad to a drainage ditch that flows to the settling pond. The Discharger states that this waste stream typically infiltrates into the ditch before any flow reaches the settling pond.
16. The ready mix concrete plant is permitted by Yolo County to produce up to 100,000 cubic yards of concrete per year. The maximum production rate of 1,588 cubic yards per day requires about 60,000 gallons of water and results in approximately 4,000 gallons of wash water.

17. On 7 April 2003, the Discharger submitted analytical data to characterize discharge from the concrete truck wash pad. Analytical results for filtered and unfiltered samples are presented below, as are the limits used to implement the applicable water quality objectives for protection of the beneficial uses of the underlying groundwater.

Constituent	Total Concentration ¹	Dissolved Concentration ¹	Water Quality Limit ^{1,3}
Aluminum	4,900	<100	200
Arsenic	--	8.7	0.02
Barium	--	190	490
Cadmium	--	<0.5	0.07
Chromium, hexavalent	36	42, 64 ²	21
Chromium, total	56	29, 58 ²	50
Copper	--	110	170
Iron	8,600	40	300
Lead	--	18	2
Manganese	220	<20	50
Mercury	--	<0.2	1.2
Molybdenum	<40	32	10
Nickel	47	<40	12
Silver	--	<1	35
Thallium	--	<2	0.1
Vanadium	--	240	50
Zinc	--	490	2,000
pH (std. units)	8.8	8.7	6.5 – 8.4
TDS (mg/L)	510	--	450

¹ µg/L unless otherwise noted.

² Results for samples obtained two weeks apart.

³ Or the natural concentration in background groundwater, whichever is higher.

-- Not analyzed.

18. These data indicate that several metals are dissolved in the concrete truck wash water at concentrations significantly greater than the water quality objectives. The Discharger did not complete the determination of whether this waste stream is a designated waste. Therefore, it is appropriate to require that the Discharger provide complete containment of the waste to protect groundwater quality, as proposed by the Discharger.
19. Minor fugitive dust from Portland cement and fly ash settles on the ground near the hopper area; most fines associated with the concrete plant are collected by a bag house.
20. The asphalt plant receives sand and aggregate, which are heated in a propane-fired dryer before being mixed with an asphalt binding agent. A bag house collects fines from the dryer and the

finished product is stored in heated silos. The asphalt plant does not use water, so no wastewater is generated.

21. Domestic wastewater is discharged to a septic system permitted by the Yolo County Environmental Health Department.
22. The Discharger maintains several aboveground storage tanks with secondary containment for diesel fuel and oils, and has prepared a Spill Prevention, Control, and Countermeasure Plan for the facility. There are also four 11,000- gallon underground asphalt storage tanks that contain asphalt products that are solids at room temperature.

Proposed Changes in the Discharge

23. The Discharger proposes to construct an underground reinforced concrete holding tank to receive the concrete truck wash water for subsequent recycling. The concrete wash water holding tank will have a total capacity of 20,000 gallons. Storm water that falls directly onto the 2,650-square foot paved area will also flow into the holding tank, and will be recycled for concrete production.
24. The Discharger submitted a water balance for the holding tank system on 5 November 2002. The water balance indicates that the typical potential recycling rate exceeds the influent flow rate even during periods of low production and highest precipitation (based on the 100-year total annual precipitation). The tank is designed to provide one foot of freeboard during the 100-year 20-day precipitation event. Because the holding tank is a concrete structure, additional freeboard is not required to protect its structural integrity. Additionally, the Discharger's daily recycled water demand far exceeds the daily flow to the holding tank. Therefore, imposing a minimum one-foot freeboard requirement on this storage system should be sufficient to protect water quality, and no flow limitation is necessary.
25. The water balances for the aggregate wash water pond and concrete truck wash water holding tank are based on estimated flows that have not been verified by flow measurement. Therefore, in order to ensure that wash water disposal and recycling facilities are adequate, it is appropriate to require that the Discharger verify actual typical flows to the settling pond and the concrete truck wash pad holding tank.
26. The Discharger estimated that the concrete truck wash water may generate up to 30 tons of solids per year, which will be removed from the holding tank as needed and recycled through the aggregate plant or used to produce recycled aggregate products.
27. New aggregate wash water ponds will be constructed as needed in former excavation areas as mining progresses across the facility site.

Site-Specific Conditions

28. The topography of the processing plant site is disturbed and regular and lies below the surrounding grade, which is approximately 150 feet above mean sea level (MSL).

29. Soils beneath the facility site consist primarily of sands and gravels interbedded with clays, silts, and sandy clays.
30. Storm water runoff drains by sheet flow to former excavation areas, and has no means to flow off-site.
31. The surrounding land is zoned for agricultural uses.

Groundwater Conditions

32. Groundwater is typically encountered from 30 to 65 feet below the surrounding grade, as measured in 12 observation wells installed by the Discharger in 1973 and 1990. The well locations are shown on Attachment D, which is attached hereto and made part of the Order by reference.
33. Regional groundwater gradients are generally northward towards Cache Creek, but may be affected by four onsite supply wells, which are completed approximately 130 feet bgs.
34. The previous order did not require groundwater monitoring and the Discharger has not submitted groundwater monitoring data to the Regional Board.

Basin Plan, Beneficial Uses, and Regulatory Considerations

35. 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 Water Resources Control Board (State Board). Pursuant to Section 13263(a) of the California Water Code, waste discharge requirements must implement the Basin Plan.
36. Local surface water drainage is to Cache Creek. The beneficial uses of Cache Creek are municipal and domestic supply; agricultural supply; industrial process supply, industrial service supply; water contact recreation, non-contact water recreation; warm freshwater habitat, cold freshwater habitat; spawning, reproduction, and/or early development; and wildlife habitat.
37. As stated earlier, the beneficial uses of underlying groundwater are municipal, industrial, and agricultural supply.
38. State Board Resolution No. 68-16 does not allow 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.
39. The Regional 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. Therefore, none is authorized.
40. Because no chemicals are used in processing the aggregate and based on the effluent monitoring data provided by the Discharger, the land disposal of aggregate wash water as proposed should not degrade groundwater quality. Additionally, the concrete truck wash water holding tank and recycling program will minimize the release of dissolved constituents to groundwater. Therefore, it is appropriate not to require groundwater monitoring at this time. If staff determines that the discharge has caused, or has the potential to cause, groundwater degradation, then the Discharger will be required to monitor groundwater quality, cease the discharge, change the method of disposal, and/or take other actions as necessary to comply with Resolution No. 68-16.
41. Section 13267(b) of California Water Code states 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 regional 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. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports."

The monitoring and reporting program required by this Order and the attached Monitoring and Reporting Program No. R5-2003-0113 are necessary to assure compliance with these waste discharge requirements. The Discharger operates the facility that discharges the waste subject to this Order.

42. In 1996, the Yolo County Planning Commission certified a Final Project Environmental Impact Report (EIR) for the Solano Concrete Long-Term Off-Channel Mining Permit in accordance with the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000, et seq.) and the State CEQA Guidelines.
43. On 7 May 2001, the Yolo County Planning Commission certified a Negative Declaration for the relocation of an existing ready-mix concrete plant to the Discharger's facility in accordance with CEQA.
44. Compliance with these waste discharge requirements will avoid significant impacts to water quality in accordance with the Negative Declaration.

45. The Discharger will continue to implement Reclamation Plan No. ZF #95-093 for the Solano Concrete Long-term Off-channel Mining Permit, which requires that mined areas be restored for agricultural uses.
46. The Discharger has filed a Notice of Intent to obtain coverage under the State Board's Water Quality Order No. 97-03-DWQ National Pollutant Discharge Elimination System (NPDES), General Permit No. CAS 000001, Waste Discharge Requirements (WDRs) for Discharges of Storm Water Associated with Industrial Activities.
47. 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.
48. Pursuant to California Water Code Section 13263(g), discharge is a privilege, not a right, and adoption of this Order does not create a vested right to continue the discharge.

Public Notice

49. 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.
50. 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.
51. All comments pertaining to the discharge were heard and considered in a public meeting.

IT IS HEREBY ORDERED that Order No. 95-270 is rescinded and that, pursuant to Sections 13263 and 13267 of the California Water Code, Solano Concrete Company, 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 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. Discharge of wastes to surface waters or surface water drainage courses is prohibited.

2. Discharge of domestic waste, asphaltic concrete waste, concrete waste, or concrete wash water to any process wastewater pond is prohibited.
3. 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.
4. Use of chemical gold recovery techniques including amalgamation, cyanide leaching, or any other chemical method are prohibited.
5. Discharge or deposit of waste materials at this site other than inert waste is prohibited. Inert waste shall mean materials that only pose a siltation threat to water quality.
6. Surfacing of wastewater from the septic tank or leaching system is prohibited.
7. The discharge of industrial waste to septic systems is prohibited.

B. Discharge Specifications:

1. All concrete wash water shall be fully contained within the wash pad paved area and holding tank and shall be recycled to manufacture concrete. There shall be no runoff from the wash pad to the ground surface or storm water conveyances.
2. The discharge shall remain within the designated storage and disposal areas at all times. Additional ponds may be constructed as needed within the confines of the facility site as defined on Attachment A.
3. The Discharger shall operate all systems and equipment to optimize the quality of the discharge.
4. The ponds shall be managed to prevent breeding of mosquitoes. In particular:
 - a. An erosion control program should assure that small coves and irregularities are not created around the perimeter of the water surface.
 - b. Weeds shall be minimized through control of water depth, harvesting, or herbicides.
 - c. Dead algae, vegetation, and debris shall not accumulate on the water surface.
5. The Discharger's wastewater system shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.
6. All stockpiled wastes and products shall be managed to prevent erosion of sediment to surface water drainage courses.
7. Newly constructed or rehabilitated levees or berms that hold back water shall be designed and constructed under the direct supervision of a California Registered Civil Engineer or Engineering Geologist.

8. The freeboard in each wastewater pond shall never be less than two feet as measured vertically from the water surface to the lowest point of overflow along the pond berm.
9. The freeboard in the concrete tuck wash water holding tank shall never be less than one foot as measured vertically from the water surface to the lowest point of overflow
10. The wastewater ponds shall have sufficient capacity to accommodate allowable wastewater flow and design seasonal precipitation. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with the historical rainfall patterns.
11. On or about **1 November** of each year, available ponds storage capacity shall at least equal the volume necessary to continuously comply with Discharge Specifications B.8 through B.10.
12. Neither the treatment nor the discharge shall cause a nuisance or condition of pollution as defined by the California Water Code, Section 13050.
13. The discharge shall not cause the degradation of any water supply.
14. The Discharger shall comply with all applicable sections of the Aboveground Petroleum Storage Tank Regulations (Section 25270, Health and Safety Code).

C. Effluent Limitations

Discharge of wash water or any process wastewater to the wash water ponds or holding tank in excess of the following limit is prohibited:

<u>Parameter</u>	<u>Limit</u>
pH	6.5-8.5 Standard Units

D. Solids Disposal Requirements:

1. Collected screenings, sludge, and other solids removed from liquid wastes 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. Any proposed change in sludge use or disposal practice from a previously approved practice shall be reported to the Executive Officer in the next monthly monitoring report.
3. Disposal of septage shall comply with existing Federal, State, and local laws and regulations, including permitting requirements and technical standards included in 40 CFR 503.

4. Septage generated in septic tanks shall be discharged to a permitted municipal wastewater treatment or equivalent facility. All transportation of septage or other wastewater shall be performed by a duly authorized service.

E. Groundwater Limitations:

The discharge shall not cause underlying groundwater to contain waste constituents in concentrations statistically greater than natural background water quality.

F. 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 F.2:
 - a. By **30 September 2003**, the Discharger shall submit a Holding Tank Construction Completion Report. The report shall completely document the construction of the concrete wash water holding tank and associated recycling system and shall include as-built drawings stamped by a California registered civil engineer. The certified storage capacity of the holding tank shall be at least the volume described in Finding No. 23 unless the Executive Officer expressly approves otherwise.
 - b. By **30 November 2003**, the Discharger shall submit a Flow Measurement Verification Report. The report shall completely document calibration of effluent and recycling system pumps, correlate actual flows to pump run time estimates generated from the manufacturer's pump curves, and provide a calculation correction (as appropriate) to be applied to convert from pump run time to gallons for each system. Calibration test data, manufacturer's pump curves, and calculations shall be included..
2. 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.
3. The Discharger shall comply with the Monitoring and Reporting Program No. R5-2003-0113, which is a part of this Order, and any revisions thereto as ordered by the Executive Officer.
4. 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)."

5. 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.
6. The Discharger shall report promptly to the Regional Board any material change or proposed change in the character, location, or volume of the discharge.
7. 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.
8. 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.
9. A copy of this Order shall be kept at the discharge facility for reference by operating personnel. Key operating personnel shall be familiar with its contents.
10. The Regional Board will review this Order periodically and may 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 11 July 2003.

THOMAS R. PINKOS, Executive Officer

ALO:7/11/03

WASTE DISCHARGE REQUIREMENTS ORDER NO. R5-2003-0113
SOLANO CONCRETE COMPANY, INC.
MADISON PLANT
YOLO COUNTY

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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2003-0113

FOR
SOLANO CONCRETE COMPANY, INC.
MADISON PLANT
YOLO COUNTY

This Monitoring and Reporting Program (MRP) describes requirements for monitoring the aggregate wash water ponds, the concrete truck wash water holding tank, process supply water, and aggregate wash water. This MRP is issued pursuant to Water Code Section 13267. 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 grab 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 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 AND HOLDING TANK MONITORING

Each aggregate wash water pond and the concrete truck wash water holding tank shall be inspected weekly and monitored as follows:

<u>Parameter</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Freeboard	0.1 Feet	Measurement	Weekly	Monthly
Berm condition ¹	N/A	Observation	Weekly	Monthly

¹ Applies to ponds only.

AGGREGATE WASH WATER MONITORING

Aggregate wash water samples shall be collected at the inlet to the settling pond. Grab samples are considered adequately composited to represent the effluent. At a minimum, the Discharger shall monitor the wastewater as follows:

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Flow	gpd	Pump Run Time Observation	Daily	Monthly
pH	Std.	Grab	Monthly	Monthly

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Total dissolved solids	mg/L	Grab	Monthly	Monthly
Dissolved metals ^{1, 2}	µg/L	Grab	Semi-Annual	Annual
Standard Minerals ^{2, 3}	mg/l	Grab	Semi-Annual	Annual

¹ At a minimum, the following metals shall be included: antimony, arsenic, barium, total chromium, hexavalent chromium, copper, lead, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, and zinc. Analytical methods shall be selected to provide detection limits below the limiting Water Quality Goal for each constituent.

² Samples shall be filtered through a 0.45 micron filter prior to preservation.

³ Standard Minerals shall include, at a minimum, the following constituents: Barium, Calcium, Magnesium, Sodium, Potassium, Chloride, Nitrate, Sulfate, Total Alkalinity (including alkalinity series), and Hardness.

PROCESS SUPPLY WATER MONITORING

Process supply water samples shall be collected at a point upstream of any processing equipment. Grab samples are considered adequately composited to represent the supply water. At a minimum, the Discharger shall monitor the supply water as follows:

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Flow	gpd	Pump Run Time Observation	Daily	Monthly
pH	Std.	Grab	Monthly	Monthly
Total dissolved solids	mg/L	Grab	Monthly	Monthly
Dissolved metals ^{1, 2}	µg/L	Grab	Semi-Annual	Annual
Standard Minerals ^{2, 3}	mg/l	Grab	Semi-Annual	Annual

¹ At a minimum, the following metals shall be included: antimony, arsenic, barium, total chromium, hexavalent chromium, copper, lead, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, and zinc. Analytical methods shall be selected to provide detection limits below the limiting Water Quality Goal for each constituent.

² Samples shall be filtered through a 0.45-micron filter prior to preservation.

³ Standard Minerals shall include, at a minimum, the following constituents: Barium, Calcium, Magnesium, Sodium, Potassium, Chloride, Nitrate, Sulfate, Total Alkalinity (including alkalinity series), and Hardness.

REPORTING

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type (e.g., pond, wash water, etc.), and 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.

A. Monthly Monitoring Reports

Monthly Monitoring 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). At a minimum, the Monthly Monitoring Report shall include:

1. Results of pond, process water supply, aggregate wash water, and concrete truck wash pad holding tank monitoring. Semi-annual wastewater monitoring data should also be presented in the appropriate monthly monitoring report.
2. A map depicting the locations of all active all wash water ponds and the locations where freeboard is measured.
3. A comparison of monitoring data to the discharge specifications and an explanation of any violation of those requirements. Data shall be presented in tabular format.
4. If requested by staff, copies of laboratory analytical report(s).
5. A discussion of all septage and other off-site industrial waste disposal.
6. A calibration log verifying calibration of all monitoring instruments and devices used to comply with the prescribed monitoring program.

B. Annual Monitoring Report

An Annual Monitoring Report shall be prepared as the December monthly monitoring report. The Annual Monitoring Report shall include all monitoring data required in the monthly schedule and semi-annual schedule and shall be submitted to the Regional Board by **1 February** each year. In addition to the data normally presented in the Monthly Monitoring Reports, the Annual Monitoring Report shall include the following:

1. If requested by staff, tabular and graphical summaries of all monitoring data collected during the year.
2. Based on the analytical data, a discussion of wastewater quality, the potential for groundwater degradation, and the need for groundwater monitoring (as appropriate).
3. 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.
4. A Water Balance and Capacity Calculation Report that presents calculation of the current capacity of the wastewater pond system and evaluation of the wastewater storage system's

ability to adequately contain all rainfall and industrial wastewater discharged to the ponds. Rainfall amounts shall be based on the total annual precipitation based on a return period of 100 years, distributed monthly in accordance with historical rainfall patterns.

A transmittal letter shall accompany each self-monitoring report. The letter shall discuss any violations during the reporting period and all actions taken or planned for correcting 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 a statement by the Discharger or the Discharger's authorized agent, under penalty of perjury, that to the best of the signer's knowledge the report is true, accurate, and complete.

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

Ordered by: _____
THOMAS R. PINKOS, Executive Officer

11 July 2003
(Date)

ALO:7/11/03

INFORMATION SHEET

ORDER NO. R5-2003-0113
SOLANO CONCRETE COMPANY, INC.
MADISON PLANT
YOLOCOUNTY

The Discharger owns and operates an aggregate processing facility, ready-mix concrete plant, and asphalt concrete plant at 1601 Cement Hill Road in Madison, Yolo County. The Discharger began operating a ready-mix concrete plant at the facility in January 2002 without applying for revised Waste Discharge Requirements.

The Discharger mines sand and gravel near the banks of Cache Creek, processing up to 8,000 tons of aggregate per day. An 18-acre settling pond and a 10-acre "clean water pond" (Pond No. 4) are used to recycle aggregate wash water. The ponds lie in a basin created by the completion of the first phase of mining, which is defined by a levee that provides an additional 1,000 acre-feet of storage and disposal capacity. The typical aggregate wash water flow rate is two million gallons per day (mgd) and peak flows are estimated to be 2.5 mgd. No polymers or other flocculants are used.

The Discharger also manufactures ready-mix concrete, and is permitted by Yolo County to produce up to 100,000 cubic yards of concrete per year. Loaded concrete mixer trucks are washed to remove dust and excess aggregate. The truck wash water currently drains from the paved wash stand pad to a drainage ditch that flows to the settling pond. The maximum production rate of 1,588 cubic yards per day requires about 60,000 gallons of water and results in approximately 4,000 gallons of wash water.

The Discharger proposes to abandon use of the drainage ditch and construct an underground reinforced concrete holding tank to receive the concrete truck wash water and precipitation that falls onto the paved wash stand. The concrete wash water holding tank will have a total capacity of 20,000 gallons. Storm water that falls directly onto the 2,650-square foot paved area will flow into the holding tank, and will be recycled for concrete production. Solids will be removed from the holding tank as needed and recycled through the aggregate plant or used to produce recycled aggregate products.

The asphalt plant receives sand and aggregate, which are heated in a propane-fired dryer before being mixed with asphalt oil. A bag house collects fines from the dryer and the finished product is stored in heated silos. The asphalt plant does not use water, so no wastewater is generated. Domestic wastewater is discharged to a septic system permitted by the Yolo County Environmental Health Department. Storm water runoff drains by sheet flow to former excavation areas, and has no means to flow off-site.

Groundwater Conditions

Groundwater is typically encountered from 20 to 65 feet below the surrounding grade. Regional groundwater gradients are generally northward towards Cache Creek, but may be affected by four onsite supply wells, which are completed approximately 130 feet bgs. The previous order did not require groundwater monitoring but there are eight observation wells at the processing plant site. With the exception of analytical data for one sample from the process water supply well, the Discharger has not submitted groundwater monitoring data to the Regional Board.

Because the Discharger does not use flocculants or other chemicals, there is no reason to assume that the discharge of aggregate wash water poses a threat to groundwater quality. Additionally, the Discharger submitted analytical data that indicate that the crushing and classification operations do not significantly change the quality of the process water supply. However, because that data indicate that lead and total dissolved solids exceed the water quality objectives, the proposed Order requires that the Discharger perform regular monitoring of this waste stream. If the results indicate that the aggregate wash water has the potential to degrade groundwater quality, the Discharger will be required to take appropriate action to further characterize and/or treat the waste, and monitor groundwater quality. Therefore, this Order does not require groundwater monitoring

Flow Limitations

The Discharger has submitted water balances for both the aggregate wash water pond system and the concrete truck wash holding tank. Because of the large basin area surrounding the aggregate wash water ponds, the facility's true wash water storage and disposal capacity is far greater than that provided by the ponds. Therefore, imposing a minimum freeboard requirement on this pond system should be sufficient to prevent spills or overflow, and no flow limitation is necessary for aggregate washing operations.

The Discharger's water balance for the concrete truck wash water holding tank indicates that the typical potential recycling rate exceeds the influent flow rate even during periods of low production and highest precipitation (based on the 100-year total annual precipitation). The tank is designed to provide one foot of freeboard during the 100-year 20-day precipitation event. Because the holding tank is a concrete structure, additional freeboard is not required to protect its structural integrity. Additionally, the Discharger's daily recycled water demand far exceeds the daily flow to the holding tank. Therefore, imposing a minimum one-foot freeboard requirement on this storage system should be sufficient to prevent spills or overflow, and no flow limitation is necessary.

Concrete Truck Wash Water Waste Classification

The Discharger submitted analytical data to characterize discharge from the concrete truck wash pad as part of the Report of Waste Discharge. The data indicate that arsenic, cadmium, total chromium, hexavalent chromium, lead, molybdenum, nickel, thallium, and vanadium are dissolved in the concrete truck wash water at concentrations significantly greater than the applicable water quality limits. The Discharger did not complete the determination of whether this waste stream is a designated waste. However, because the Discharger proposes to provide complete containment of the waste, further analysis should not be necessary to assure protection of groundwater quality.

Other Issues

In order to ensure that wash water storage and disposal facilities are adequate, the Discharger is also required to monitor and verify actual typical flows to the settling pond and the concrete truck wash stand holding tank.

ALO:7/24/03