ADMINISTRATIVE DRAFT

State Water Resources Control Board
Order WQ XXXX-XXXX-DWQ

General Waste Discharge Requirements
for
Aggregate and/or Concrete Facilities

October 24, 2019

CALIFORNIA
Water Boards
STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS

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ORDER WQ-XXXX-XXXX-DWQ
GENERAL WASTE DISCHARGE REQUIREMENTS FOR
AGGREGATE AND/OR CONCRETE FACILITIES

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Acronyms and Abbreviations

µm	micrometer
µmho/cm	micromhos per centimeter
Army Corps	United States Army Corps of Engineers
BPTC	best practicable treatment or control
CalCIMA	California Construction and Industrial Materials Association
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
DOC	California Department of Conservation
e.g.	Latin *exempli gratia* (for example)
et seq.	Latin *et sequens* (and the following)
FEMA	Federal Emergency Management Agency
ft	feet
General Order	general waste discharge requirements order
HDPE	high density polyethylene
i.e.	Latin *id est* (that is)
IGP	Industrial General Permit
MCL	maximum contaminant level
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
MRP	monitoring and reporting program
NOA	notice of applicability
NPDES	National Pollutant Discharge Elimination System
OWTS	onsite wastewater treatment system
PDF	portable document format
PRC	Public Resources Code
PVC	polyvinyl chloride
Regional Water Board	Regional Water Quality Control Board
RWD	report of waste discharge

SMARA	Surface Mining and Reclamation Act of 1975
SMGB	State Mining and Geology Board
SNMP	salinity nutrient management plan
SOP	standard operating procedure
State Water Board	State Water Resources Control Board
std units	standard units
TCLP	toxicity characteristic leaching potential
USEPA	United States Environmental Protection Agency
Water Code	California Water Code
WDRs	waste discharge requirements

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FINDINGS

The State Water Resources Control Board (State Water Board) finds that:

BACKGROUND INFORMATION

1. The California Legislature has declared that the extraction of minerals, such as aggregate, is essential to the continued economic well-being of the state (Public Resources Code [PRC], section 2711). Aggregate and concrete are basic, heavy-weight construction materials necessary for building and maintaining the state's infrastructure, which is vital to maintaining a strong economy. Aggregate, including sand, gravel, and crushed stone, is mined and used either as a raw material or as an ingredient in the production of concrete and asphaltic concrete.
2. According to the California Department of Transportation (Caltrans):[1,2]
   a. The primary markets for aggregate are private residential construction (34 percent), commercial construction (17 percent), and public infrastructure projects (43 percent). Public highways, streets, and transit projects account for 26 percent of the public infrastructure projects.
   b. Aggregate costs represent approximately 8 to 10 percent ($225 million) of the yearly average $2.5 billion state and local construction project costs.
   c. California produced nearly 149 million tons (valued at $1.64 billion) of construction sand, gravel, and crushed stone in 2015.
   d. Statewide demand for aggregate is expected to increase with continuing authorization of road, bridge, levee, and other large civil engineering projects. The projects will also create demand for construction, engineering, administrative, and other labor. The federal government estimates that infrastructure spending creates more than 13,000 jobs for every $1 billion spent.[3]
   e. Housing construction activity, which nearly tripled between 2009 and 2015, will continue to create aggregate demand.

[1] Caltrans. 2018. Construction Aggregate Supply Limitations Fact Sheet, Some Estimates of Economic Impact. February.

[2] Caltrans. 2018. 2018 Aggregate Resource Policy Statement and Tools [Memorandum]. Memorandum from M. Dougherty (Caltrans Director) to Caltrans District Directors. March 1.

[3] California Senate Bill 1, Road Repair and Accountability Act of 2017, Section 1(i).

f. Approximately 5 to 6 percent of California's estimated 78 billion tons of aggregate resources are permitted for mining. Permitting an aggregate mine can take 5 to 10 years. The California Geological Survey estimates that at the current production rate, available supplies in some parts of the state will be depleted in about a decade.[4]

3. The California Legislature has stated that production and development of local mineral resources are vital to reducing transportation costs and the greenhouse gas emissions generated from distributing aggregate (PRC, section 2711).

4. Transportation of aggregate increases costs, road damage, and greenhouse gases, and can impact roadway safety. According to Caltrans:[1,2]

   a. Transportation distance is a significant factor in the cost of delivered aggregate. Shipping costs for aggregate can outweigh production costs if the material is trucked more than 20 miles.

   b. Shorter truck hauling distances and reduced international imports of materials support California's commitment to reducing greenhouse gas emissions. The state is required to adopt a statewide greenhouse gas emissions limit to achieve 1990 levels by 2020.[5]

   c. Decreased truck hauling distances reduce the wear on highways and improves safety by reducing the number of trucks making longer and more frequent trips.

   d. California produced approximately 149 million tons of aggregate in 2015. Transporting the material generated approximately 12 million truck trips a year. Assuming an average haul distance of 50 miles, aggregate trucks traveled about 596 million miles. Reducing the assumed average haul distance for this aggregate by 30 percent, from 50 miles to 35 miles, would:

      i. Decrease the aggregate truck haul distance from approximately 596 million miles to 417 million miles.

      ii. Decrease diesel fuel consumption by approximately 23 million gallons.[6]

      iii. Reduce carbon dioxide emissions by approximately 258,000 tons a year.[7]

5. An owner or operator of an aggregate and/or concrete facility is hereafter referred to as "Discharger" in this general waste discharge requirements (WDRs) order (General Order).

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[4] California Geological Survey, Department of Conservation. 2012. Map Sheet 52, Aggregate Sustainability in California.

[5] California Assembly Bill 32, Global Warming Solutions Act of 2006, section 38550.

[6] Based on California Air Resources Board estimated diesel fuel consumption rate of 0.13 gallons per vehicle-mile when traveling at 55 to 60 miles per hour.[1]

[7] Based on U.S. Environmental Protection Agency carbon dioxide emissions estimate of 22.2 pounds per gallon of diesel burned. Source: U.S. Department of Energy, Fact #576: Carbon Dioxide from Gasoline and Diesel Fuel (June 22, 2009).

AGGREGATE EXCAVATION, PROCESSING, AND WASTEWATER

6. Aggregate facilities excavate, wash, screen, crush, and size rocks, sand, and gravel for use in construction activities. The aggregate products are stockpiled onsite until they are transported offsite for use.
7. Aggregate mining includes use of scrapers, track-mounted excavators, bulldozers, backhoes, draglines, and clam-shell buckets. Processing equipment generally consists of conveyor belts, wash screens, crushers, and vibratory screens.
8. Aggregate wastewater is generated by washing fine-grained soil particles from the excavated aggregate and from equipment cleaning. Turbid wastewater is either discharged to a wastewater pond to settle the fine-grained material or is discharged to a mechanical clarifier. Clarified water is either allowed to percolate or is recycled as facility process water. Settled sediment in the ponds is generally left in place, reprocessed as a salable material, or used in mine reclamation activities.
9. Typically, aggregate facilities are supplied water using an onsite groundwater production well. Clarified wastewater is sometimes used to wash aggregate if the water quality meets product specifications.
10. Coagulants and flocculants are sometimes used to promote settling of suspended solids in wastewater. Coagulants and flocculants can be organic or inorganic compounds. Typically, alum, ferric chloride, or long-chain organic polymers are used. Although inorganic coagulants or flocculants can increase wastewater salinity, use consistent with manufacturer recommendations is unlikely to result in water quality degradation. Dosages of coagulant and flocculant are typically low (less than 10 milligrams per liter [mg/L]) and optimized to minimize chemical use and cost.
11. Aggregate facilities sometimes recycle materials onsite to produce salable aggregate products. Concrete materials (such as broken concrete and bricks) can be crushed to produce road base.
12. Aggregate facilities sometimes operate gold recovery circuits. Only gravimetric gold recovery methods are allowed. Amalgamation or leaching processes are prohibited. Chemical recovery methods such as mercury amalgamation or cyanide leaching produce wastes that, if discharged, can have significant impacts to water quality.

AGGREGATE WASTEWATER CHARACTERIZATION

13. The primary constituents of concern in aggregate wastewater are mercury and suspended solids.
    a. Mercury is a naturally occurring element that exists in aggregate wastewater in some areas of the state. Mercury associated with aggregate mines exists because:
        i. Mercury is found naturally in some areas of the state and has been mined in the Coast Ranges from Santa Barbara County to Lake County.[8] Processing aggregate in such areas is likely to produce wastewater with elevated mercury concentrations.
        ii. Mercury is also found in areas of historic gold mining. It was used to improve recovery of gold through amalgamation. In that process, mercury was sometimes lost to the environment due to processing spills.
    b. Suspended solids are small soil particles that remain in suspension in water. Discharge of suspended solids to surface waters can impact wildlife habitat. Because mercury may be adsorbed to suspended solids, controlling offsite discharges of turbid wastewater is important.
14. Although not a primary constituent of concern, salinity in wastewater can also be increased from aggregate processing. Salinity is a measure of dissolved solids in water. Aggregate processing facilities increase salinity by dissolving soluble salts that exist in soil and through evapoconcentration of wastewater in ponds. Except for a modest increase in salinity if flocculants or coagulants are used, aggregate processing does not add salinity by chemical addition. Precipitation that falls on the pond catchment area can dilute pond salinity concentrations. Most of the dissolved solids in aggregate processing wastewater are inorganic (nonbiodegradable) solids or fixed dissolved solids.

MERCURY CONSIDERATIONS

15. The August 2002 Mercury Report, prepared by the California Department of Toxic Substances Control, states:[9]
    a. Mercury is toxic in all chemical forms, but methylmercury is the form that poses the highest risk to the environment due to its toxicity and ability to bioaccumulate in aquatic organisms.
    b. Methylation is the process that converts inorganic mercury into methylmercury. Studies have shown that methylation can occur in the water column and in sediment, both by biological and abiotic processes.

[8] Norris, R., and R. Webb. 1990. Geology of California. Second edition. John Wiley & Sons, Inc., U.S. and Canada.

[9] California Department of Toxic Substances Control. 2002. Mercury Report. August.

c. In aquatic environments, both methylmercury and inorganic divalent mercury preferentially partition to soil, sediment, and suspended matter (i.e., the dissolved mercury concentration is lower than the concentration in soil, sediment, and suspended matter).

d. Divalent mercury is both reactive and soluble in water. Divalent mercury is reduced to the elemental species in the freshwater environment and may be subsequently removed from the water column by volatilization.

e. Most mercury in the water column is removed not by reduction to the elemental species, but by sedimentation of the particles to which divalent mercury and methylmercury are adsorbed.

16. Mercury strongly adsorbs to soil particulates. Therefore, collection, acidic digestion, and analysis of turbid wastewater samples frequently result in detectable mercury concentrations. Collection of clarified wastewater samples either through settling or filtration prior to acidification, digestion, and analysis provides data on the soluble fraction of mercury in the sample. Typically, mercury is not soluble enough to be detected in laboratory analyses, except for analytical methods with very low detection limits (nanograms per liter).

17. Because mercury is primarily immobilized through adsorption and sedimentation, containing aggregate wastewater in appropriately designed and maintained ponds minimizes the potential for mercury to degrade water quality.

CONCRETE MANUFACTURING AND WASTEWATER

18. Concrete facilities manufacture concrete by mixing water, aggregate, Portland cement, and in some cases admixtures. The concrete is either mixed at a central mix facility and dispensed into ready-mix delivery trucks or made using a transit mix facility where the concrete components are dispensed into a ready-mix truck and mixed in the rotating drum traveling to the use site. Admixtures are materials added to change concrete properties, such as its strength, workability, consistency, or color. All references to concrete in this order include any product that contains Portland cement.

19. Concrete manufacturing generally includes use of conveyor belts, mechanical gates and valves, weigh hoppers, pumping systems, metering systems, and mixer drums.

20. Concrete wastewater is generated primarily from washing, rinsing, moisture management, residual waste management, and dust control activities.[10] Sources of concrete wastewater include:

a. Plant mixer washing – plant mixers at central mix facilities are regularly rinsed to remove residual concrete.

[10] California Construction & Industrial Materials Association (CalCIMA). 2012. Ready-mixed Concrete Process Water Best Management Practices Manual (Draft). Developed by CalCIMA in conjunction with the State Water Board. August.

b. Loadout area washing – loading areas for ready-mix concrete at central mix facilities and for raw materials at transit mix facilities are periodically rinsed.

c. Truck rinsing and washing – ready-mix trucks are rinsed and washed frequently to remove cement and concrete components. Truck drums are washed throughout the day and at the end of each workday to remove residual concrete. Ready-mix trucks are washed using soaps to remove grime and with acids to remove cementitious material films.

d. Other minor sources – small amounts of wastewater are generated from dust control, yard maintenance, and aggregate moisture management. Water is used to suppress dust and rinse facility areas, such as the raw materials loadout areas. Water is also sprayed onto aggregate to maintain the water content, for dust control, or for cooling.

21. Typical concrete mixing water supply sources are an onsite groundwater production well, municipal supply, collected storm water, or clarified wastewater.

22. Concrete may be returned to the facility because a customer ordered more than needed, the concrete did not meet job site specifications, or for other reasons. Excess concrete is often used to build precast structures (e.g., retaining wall blocks) or poured into windrows to harden. When cured, the windrows are stockpiled for subsequent crushing to produce road base material. Due to product specifications, reuse of the crushed concrete as aggregate to make more concrete is not allowed by the construction industry.

23. Concrete facilities sometimes accept broken concrete such as sidewalks or pavement. The broken concrete is added to the stockpile and is crushed and recycled.

CONCRETE WASTEWATER CHARACTERIZATION

24. The California Construction and Industrial Materials Association (CalCIMA) commissioned a characterization of concrete wastewater quality titled, “Results of Concrete Washwater Pond Sampling and Analysis.”[11] The study was performed by Walker & Associates, Inc. Grab samples were collected from wastewater ponds receiving concrete wastewater at four sites and the results are reported in Table 1. These data generally characterize concrete wastewater quality, but actual wastewater quality at individual facilities may fall outside this range.

[11] Walker & Associates, Inc. 2006.

Table 1. Concrete Wastewater Pond Water Quality for Four Sites

Constituent	Units [1]	Site 1	Site 2	Site 3	Site 4
Arsenic [2]	mg/L	0.35	<0.00027	<0.00027	<0.00027
Lead [2]	mg/L	0.18	<0.00023	<0.00023	<0.00023
Mercury [2]	mg/L	<0.00015	<0.00015	<0.00015	<0.00015
Hexavalent chromium [3]	mg/L	0.076	0.46	0.54	0.039
Hexavalent chromium, dissolved [3]	mg/L	0.068	0.44	0.53	0.038
Chromium [2]	mg/L	0.096	0.44	0.49	0.047
Chromium, dissolved [4]	mg/L	0.072	0.43	0.48	0.045
Sodium, dissolved [4]	mg/L	16	48	52	92
pH [6]	std units	12.1	11.9	12.3	12.0
Total dissolved solids [5]	mg/L	1,300	1,800	1,900	1,200
Electrical conductivity [5]	µmho/cm	3,500	3,100	6,100	3,700

1. mg/L denotes milligrams per liter; std units denotes standard units; µmho/cm denotes micromhos per centimeter
2. Unfiltered concrete wastewater samples collected and shipped to laboratory in unpreserved containers.
3. Unfiltered CAM 17 metals analyzed by EPA 6010B/6020/7000 series methods.
4. Total and dissolved hexavalent chromium analyzed by EPA Method 7199. Sample filtered through a 0.45-micron filter prior to analysis for dissolved hexavalent chromium.
5. Dissolved metals analyzed by EPA 6010B/6020/7000 series methods after filtration through a 0.45-micron filter.
6. Unfiltered samples analyzed by standard EPA/STDM methods (9040 B for pH).

25. The primary constituents of concern in concrete wastewater are alkalinity (high pH), hexavalent chromium, salinity, and suspended solids.

    a. Cementitious materials such as Portland cement can increase the pH of water to 12 or more, which can be caustic and corrosive. Discharge of high pH wastewater can alter soil chemistry, degrade water quality, and if discharged to surface water, impact aquatic life.

    b. Chromium is a naturally occurring metal found in trace amounts in geologic materials like those quarried for cement.[12] Chromium generally exists in either trivalent or hexavalent states. The hexavalent state is more toxic. Because the cement manufacturing process converts trivalent chromium to hexavalent chromium during the raw material roasting process, hexavalent chromium is also found in concrete.[12] The federal drinking water maximum contaminant level (MCL) for total chromium (which includes all forms of chromium) is 0.1 mg/L; the California total chromium MCL is 0.05 mg/L. There is currently no federal or state MCL for hexavalent chromium.

[12] Portland Cement Association. 2007. Hexavalent Chromium in Cement Manufacturing. Portland Cement Association Research and Development Serial No. 2983. Written by L. Hills and V. Johansen.

c. Salinity is a measure of dissolved solids in water. Concrete manufacturing increases salinity by dissolving soluble salts that exist in aggregate soil particles, dissolving soluble constituents that exist in Portland cement and admixtures, and through evapoconcentration of wastewater in ponds. Most of the dissolved solids in concrete manufacturing wastewater are inorganic (nonbiodegradable) solids or fixed dissolved solids.

d. Suspended solids are small particles that remain in suspension in water. Discharge of suspended solids to surface waters can impact wildlife habitat. Because contaminants may be adsorbed to suspended solids, controlling offsite discharges of turbid wastewater is important.

CHROMIUM CONSIDERATIONS

26. Chromium is a naturally occurring element typically found in higher concentrations in ultramafic deposits (e.g., serpentinite). Chromium can exist in different oxidation states. Trivalent chromium is less toxic than hexavalent chromium and is the most common chromium oxidation state in the environment.[13]

27. Trace amounts of chromium are present in Portland cement. Chromium in Portland cement originates from a variety of sources, including raw materials, fuel, refractory brick, grinding media, and additives. Most quarried raw materials do not contain water soluble hexavalent chromium. Hexavalent chromium is created when trivalent chromium oxidizes in the kiln and exists in the clinker, which is cooled and processed in a mill to produce powdered Portland cement. The Portland Cement Association chemically analyzed 94 cement samples and reported the chromium concentrations shown in Table 2.[12]

Table 2. Average Chromium Concentrations in Cement Samples

Concentration	Total Chromium (mg/kg) [1]	TCLP Extractable Hexavalent Chromium (mg/L) [1]
Range	25 – 422	0.07 – 1.54
Average	76	0.54

1. mg/kg denotes milligrams per kilogram; mg/L denotes milligrams per liter; TCLP denotes toxicity characteristic leaching potential

28. Detections of hexavalent chromium are generally associated with waste discharges, but hexavalent chromium can also be produced through oxidation of naturally occurring

[13] Oze, C., Bird, D., and Fendorf, S. 2007. Genesis of hexavalent chromium from natural sources in soil and groundwater. Proceedings of the National Academy of Sciences. Volume 104, number 16, pg 6,544-6,549. April 17.

trivalent chromium.[14] The oxidation rate of trivalent chromium is increased with low pH and the presence of manganese oxide. The rate of oxidation is significantly slowed with increasing pH.[12]

29. Under reducing conditions, hexavalent chromium may convert to trivalent chromium. Trivalent chromium is insoluble when pH is greater than 4 and precipitates or strongly adsorbs to solid surfaces.[15] The hexavalent chromium reduction rate decreases with increasing pH. At neutral pH, the reduction process is slow.[16]

30. Because the normal pH range for groundwater is 6 to 8.5,[17] trivalent chromium generally does not exist in a soluble form, substantial concentrations of trivalent chromium do not oxidize to hexavalent chromium, and the rate of hexavalent chromium reduction to trivalent chromium is slow.[18] In groundwater, because hexavalent chromium sorption is negligible,[19] it is highly mobile in the environment.

31. Hexavalent chromium is often present in cement and/or concrete wastewater. Hexavalent chromium concentrations may be evapoconcentrated in wastewater ponds, resulting in concentrations higher than present in wastewater sources.

32. Leakage from wastewater ponds containing hexavalent chromium or dissolved solids can degrade water quality. In some cases, attenuation of the hexavalent chromium may occur through chemical reduction or soil adsorption processes, but the attenuation capacity is limited.

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[14] State Water Board. 2017. Groundwater Information Sheet, Hexavalent Chromium. Prepared by State Water Board, Groundwater Ambient Monitoring and Assessment Program. November.

[15] Ellis, A., Johnson, T., and Bullen, T. 2002. Chromium Isotopes and the Fate of Hexavalent Chromium in the Environment. Science. Volume 295, pg 2,060-2,062. March 15.

[16] United States Environmental Protection Agency (USEPA). 1994. EPA Ground Water Issue, Natural Attenuation of Hexavalent Chromium in Groundwater and Soils, EPA/540/5-94/505. Written by C. Palmer and R. Puls. October.

[17] Water Research Center. 2018. The pH of Water. Written by B. Oram. Website: https://www.water-research.net/index.php/ph. Website accessed on September 7, 2018.

[18] USEPA. 2018. Contaminated Site Cleanup Information, Chromium VI, Chemistry and Behavior. Website: https://clu-in.org/contaminantfocus/default.focus/sec/chromium_VI/cat/Chemistry_and_Behavior/. Website accessed July 10, 2018.

[19] Independent Environmental Technical Evaluation Group. 2005. Chromium (VI) Handbook. Chapter 8, Treatment Technologies for Chromium (VI). Written by E. Hawley, R. Deeb, M. Kavanaugh, and J. Jacobs. CRC Press.

33. Concrete mixtures are primarily composed of Portland cement, aggregate, and water. The water and Portland cement react in a chemical reaction called hydration.[20] The hydration reaction consumes available water, which makes water leaching from uncured concrete unlikely. Therefore, uncured concrete placed on the ground in windrows is unlikely to result in groundwater quality degradation.

34. Concrete facilities that do not discharge concrete wastewater to an onsite pond or dispersal system and implement good housekeeping practices have minimal potential for discharging hexavalent chromium containing wastewater and are not a threat to water quality.

PRIMARY SETTLING BASINS FOR CONCRETE WASTEWATER

35. Concrete wastewater is typically discharged to an engineered pond, hereafter called a primary settling basin (e.g., weired basin, sump, or engineered equivalent), where larger solids (gravel, sand, etc.) are settled. In most cases, all the clarified wastewater is used to make concrete on a daily basis. In some cases, clarified water is discharged to a secondary storage pond or engineered equivalent, where it is subsequently used to make concrete. Some facilities may employ aboveground storage tank(s) or other engineered equivalent methods to store clarified wastewater.

36. To maintain the operating capacity of the primary settling basin, settled solids are removed using a front-end loader or similar equipment. Solids are reused as road base aggregate or disposed of offsite. Due to the weight of the equipment used to remove solids, the primary settling basin must be designed to allow the use of heavy equipment without damage to the structure.

37. Primary settling basins provide storage, treatment, and allow reuse of clarified wastewater. However, primary settling basins require frequent removal of settled solids to maintain capacity.

    a. Primary settling basins must be sized and constructed to provide sufficient capacity to accommodate the wastewater volume, seasonal precipitation, and sufficient freeboard to prevent wastewater overflow. Concrete wastewater primary settling basins must meet the capacity requirements stipulated in Discharge Specifications B.3.j and B.3.k. The Discharger may use the primary settling basin and secondary storage pond(s) or above ground storage tanks in determining adequate capacity.

38. Leakage from the concrete wastewater system can be reduced through sealing joints, repairing significant cracks, adequate structural design to accommodate loads, keying walls into slabs, use of water stops in construction joints, piping connections rather than unlined ditches, and regular inspection of the system.

39. CalCIMA commissioned a study on the permeability of concrete as a primary settling basin lining material. KANE Geotech, Inc. performed the study and produced a report

[20] Kosmatka and Wilson. 2016. Design and Control of Concrete Mixtures, 16th Edition.

titled, “Retention of Ready-Mix Process Water.” The report provided the following conclusions:

a. Plain (not coated with a concrete sealant) concrete possesses a hydraulic conductivity of approximately $1x10^{-10}$ centimeters/second (cm/s). Permeability of uncracked concrete will decrease (become less permeable) with time as the concrete ages.

b. Admixtures and/or concrete sealants do not have a significant hydraulic conductivity effect.

c. Concrete samples that were deliberately cracked to evaluate hydraulic conductivity changes through fracture flow were shown to be effectively sealed by placing concrete paste on the crack. It is anticipated that concrete wastewater, which contains concrete paste, will serve as a self-sealing mechanism to reduce wastewater infiltration from a concrete-lined primary settling basin.

WASTEWATER PONDS (AGGREGATE AND/OR CONCRETE)

40. Wastewater ponds provide equalization, storage, treatment, and a means for disposal. However, wastewater discharged to a pond can result in water quality degradation.

    a. Ponds can be vulnerable to damage caused by burrowing animals. Because burrowing animals can cause the rapid failure of a containment berm, the population of such animals shall be promptly controlled and repairs to the containment berm completed as soon as possible.

    b. Wastewater ponds must be sized and constructed to contain the wastewater volume and precipitation, as well as allow for sufficient freeboard to prevent wastewater overflow or damage from wind generated waves. Aggregate and concrete wastewater ponds must meet the capacity requirements stipulated in Discharge Specifications B.2.j and B.2.k and Discharge Specifications B.3.j and B.3.k, respectively.

    c. Wastewater ponds are often configured in series allowing primary settling to occur in the first pond and clarified water to overflow into successive ponds. In demonstrating adequate storage capacity, the Discharger may use all of the site’s wastewater ponds. If the Discharger operates multiple concrete wastewater secondary storage ponds, all the ponds must be evaluated as described in Attachment A, which is attached and made a part of this General Order.

41. Ponds that receive wastewater generated from aggregate or concrete processes are defined as follows:

    a. An aggregate wastewater pond is a pond that receives aggregate wastewater.

    b. A concrete wastewater pond is a pond that receives concrete wastewater.

    c. Ponds that receive both aggregate and concrete wastewaters must be configured to receive only one type of wastewater. After the waste streams are isolated, the pond

type will be based on whichever wastewater type (aggregate or concrete) will be discharged to the pond.

42. Attachment A provides a process to evaluate concrete wastewater secondary storage ponds to determine the potential for degradation of underlying groundwater, the need for groundwater monitoring, and the need to implement best practicable treatment or control (BPTC) measures. A BPTC implementation (compliance) schedule is provided in Attachment B, which is attached and made a part of this General Order. Dischargers must evaluate site conditions using the Concrete Secondary Storage Pond Evaluation in Attachment A.

    a. Secondary storage ponds equipped with an appropriately installed and maintained concrete or synthetic liner (e.g., geomembrane) provide better water quality protection than ponds equipped with a low permeability liner (e.g., compacted clay liner). Dischargers operating synthetically lined ponds are not required to perform groundwater characterization unless directed by the Regional Water Quality Control Board (Regional Water Board) Executive Officer for cause (e.g., physically damaged liner, degraded by ultra-violet light, burrowing animal damage, etc.)

    b. Low permeability liners provide lower groundwater protection than concrete or synthetic liners and therefore trigger groundwater sampling requirements. However, because low permeability liners and unique site conditions may provide adequate water quality protection, groundwater characterization is only required periodically to determine if groundwater is being degraded to an unacceptable extent.

    c. Unlined secondary storage ponds receiving concrete wastewater constitute the highest threat to groundwater quality. Continued use of unlined secondary storage ponds triggers a requirement to install groundwater monitoring wells to evaluate the activity's impact on groundwater quality. Alternatively, a Discharger can line the secondary storage pond. If groundwater is unacceptably degraded, only pond decommissioning or lining the pond with a concrete or synthetic liner is an acceptable BPTC. Unlined secondary storage ponds constructed after the adoption date of this General Order are prohibited.

OTHER WASTE STREAMS

43. Storm water that falls on the facility and is commingled with aggregate or concrete wastewater or is directed to a wastewater pond is considered wastewater and regulated by this General Order.

44. Asphaltic concrete mix plants and asphalt recycling facilities may be co-located at aggregate or concrete processing facilities. Asphaltic plants sometimes generate small amounts of wastewater from a bag house or wet scrubbers used to control particulate emissions from the equipment. Wastewater generated from the asphaltic concrete operations may be covered under this General Order provided that the asphaltic concrete wastewater does not come into contact with petroleum hydrocarbons and the wastewater is discharged to the facility wastewater pond (concrete or aggregate).

45. Laboratory chemical wastes (such as solvents, reagents, and assay chemicals) containing hazardous materials shall be isolated for separate treatment and disposal.

46. Petroleum hydrocarbons (such as asphaltic oil, motor oil, hydraulic fluid, transmission fluid, lube grease, gear lube, solvents, cleaning fluids, etc.) must be properly stored at the site to prevent accidental releases or discharges into receiving water bodies. Asphaltic oil, fuel, propane, and other similar products must be stored according to product labels and consistent with applicable regulations.

47. Domestic wastewater shall be appropriately managed based on the disposal method.

    a. Facilities that discharge domestic wastewater to a community sewer system shall do so consistent with the sewer system requirements.

    b. Facilities that discharge domestic wastewater to an onsite wastewater treatment system (e.g., septic tank and leach field) shall obtain separate regulatory authorization (e.g., local agency permit, WDRs, or other permitting mechanism) to discharge the wastewater.

    c. Some facilities employ chemical toilets for visitors or in remote areas of the property. Discharges from portable toilets may contain chemicals that can pollute groundwater quality. Some commercially available products used to control portable toilet odors may contain chemicals such as formaldehyde, methyl alcohol, zinc, phenol, or other harmful chemicals. If discharged to an onsite wastewater treatment system, the chemicals can kill the bacteria in the wastewater treatment system and cause wastewater to be inadequately treated. Inadequately treated wastewater may cause additional problems such as leach field/seepage pit failure, surfacing wastewater, and potential exposure and health risks. Small onsite wastewater treatment systems generally do not provide adequate treatment of the harmful chemicals. Discharge of the chemicals to groundwater that creates pollution may result in enforcement activities requiring groundwater remediation. This General Order prohibits the discharge of portable (chemical) toilet waste to an onsite wastewater treatment system without WDRs issued by the Regional Water Board addressing the waste.

SURFACE WATER CONSIDERATIONS

48. Some facilities operate near surface water bodies significantly modifying surface water drainage patterns. However, excavation and processing activities are manmade and are separated from well-established channels of rivers.

    a. The United States Environmental Protection Agency (USEPA) has drawn a distinction between natural and artificial ponds under Section 122.2 of Title 40 of the Code of Federal Regulations (CFR) (40 CFR 122.2). Artificial, manmade ponds, such as the wastewater ponds located at aggregate and concrete facilities, are not waters of the United States consistent with the waste treatment system exclusion of 40 CFR 122.2.

    b. The United States Army Corps of Engineers (Army Corps) exempts aggregate wastewater ponds from Clean Water Act jurisdiction. The Army Corps has interpreted that the term “Waters of the United States” does not include artificial lakes or ponds

created by excavating and/or diking dry land to collect and retain water and which are used exclusively for purposes such as settling basins (51 Fed. Reg. 41217 [1986]). Waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel are also not Waters of the United States (51 Fed. Reg. 41217 [1986]).

49. The State Water Board finds that manmade aggregate and concrete wastewater ponds and channels that comply with the eligibility requirements of this General Order are not waters of the United States and the activities are appropriately addressed in this General Order rather than a National Pollutant Discharge Elimination System (NPDES) permit.

50. This General Order requires aggregate processing areas to be protected from inundation by the 100-year return base flood elevation. Excavation activities shall occur outside the ordinary high-water mark established by fluctuations of water elevation and indicated by characteristics such as shelving, changes in soil character, vegetation type, presence of litter or debris, or other appropriate means.

51. Additional authorization is required for construction or excavation activities within a stream that is subject to Clean Water Act sections 401 and 404 requirements of the Army Corps, Regional Water Board, State Water Board, the California Water Code (Water Code) requirements, or State Lands Commission.

GENERAL ORDER ELIGIBILITY

52. Dischargers that land apply wastewater produced from the following facility activities are eligible for enrollment under this General Order:

    a. Excavation and/or processing activities that:

        i. Produce aggregate, gravel, crushed stone, and/or sand. Instream activities[21] are not eligible for General Order coverage.

        ii. Recycle broken concrete, road base, and/or limited amounts of bricks to produce products consistent with the aggregate production activities. Facilities that produce asphaltic concrete may also recycle broken asphalt, asphalt shingles, or other suitable petroleum-rich products if they are stored appropriately to protect water quality.

[21] Instream activities are defined as excavation activities that occur within the ordinary high-water mark established by fluctuations of water elevation and indicated by characteristics such as shelving, changes in soil character, vegetation type, presence of litter or debris, or other appropriate means.

b. Concrete facilities that:

   i. Produce concrete, cement, and/or concrete products.[22]

   ii. Recycle broken concrete, returned concrete, road base, and limited amounts of bricks to produce products consistent with associated site activities (e.g., road base for paving projects). Facilities that produce asphaltic concrete may also recycle broken asphalt, asphalt shingles, or other suitable petroleum-rich products if they are stored appropriately to protect water quality.

53. Dischargers operating concrete facilities that comply with the following conditions may be exempted from coverage under this General Order if all of the following apply:

   a. All concrete wastewater is discharged to a community wastewater collection system or is contained in an appropriate storage vessel (e.g., above ground storage tank or subsurface holding tank with no outlet) and either reused to make concrete or is hauled to a Regional Water Board permitted facility for disposal (e.g., wastewater treatment plant).

   b. The facility does not discharge or dispose of concrete wastewater to an onsite pond.

   c. The facility does not discharge or dispose of concrete wastewater to an onsite dispersal system, such as a leach field, cesspool, or similar system.

   d. The concrete facility implements good housekeeping BPTC measures as described in the BPTC Measures and Implementation Schedule section of this General Order.

APPLICATION PROCESS

54. Dischargers seeking coverage under this General Order shall file a report of waste discharge (RWD) with the appropriate Regional Water Board. Some Regional Water Boards may provide procedures for electronic submittal of application documents. Guidance on the application process and on the information necessary for an RWD is provided in Attachment C (Generalized Permit Application Process Summary) and Attachment D (Recommended Report of Waste Discharge Format), respectively, both of which are attached and made a part of this General Order. An RWD consists of:

   a. A completed Form 200, available at:
   <https://www.waterboards.ca.gov/publications_forms/forms/>

[22] Cement refers to mixtures of hydrated cement for various construction purposes (e.g., water well sealing material). It does not refer to a cement manufacturing facility that produces cement from raw materials (e.g., cement kiln). Concrete products refers to precast concrete products (e.g., manholes, pipe sections, building wall panels, etc.) used in construction projects.

b. An application fee that serves as the first annual fee. Fees for WDRs are based on the site's threat to water quality and complexity rating. Threat and complexity ratings are defined in the fee schedule listed in California Code of Regulations (CCR), title 23, section 2200 available at: <https://www.waterboards.ca.gov/resources/fees/>

c. A technical report that describes the wastewater generation, treatment, storage, and disposal. An applicant is advised to inquire at the Regional Water Board before performing investigations and/or preparing the technical report.

   i. Dischargers may use historical mercury data for the RWD technical report provided that the wastewater data were collected pursuant to an existing facility WDR, waiver of WDRs, or another administrative mechanism and submitted to the Regional Water Boards.

55. Upon review of the RWD, Regional Water Board staff will determine if coverage under this General Order is appropriate. The Regional Water Board's Executive Officer will issue a Notice of Applicability (NOA) when coverage under this General Order has been authorized. The NOA will contain the necessary site-specific monitoring and reporting program (MRP) requirements, financial assurance modifications (if needed), and compliance schedule (if appropriate).

56. Dischargers covered by a site-specific WDR, a waiver of WDRs, or another administrative mechanism may continue discharging under that authority until notified to update their coverage by the Regional Water Board.

57. Although a Discharger may be eligible for coverage under this General Order, the Regional Water Board Executive Officer may determine that the discharge would be better regulated by a waiver of WDRs, individual WDR, a different general order, an enforcement order, or an NPDES permit.

ANTIDEGRADATION ANALYSIS

58. State Water Board Resolution 68-16, *Statement of Policy with Respect to Maintaining High Quality of Waters in California* (hereafter the Antidegradation Policy), requires that disposal of waste into waters of the state be regulated to achieve the highest water quality consistent with the maximum benefit to the people of the state. The quality of some waters is higher than established by adopted policies and that higher quality water shall be maintained to the maximum extent possible consistent with the Antidegradation Policy. The Antidegradation Policy requires the following:

a. Higher quality water will be maintained until it has been demonstrated to the state that any change will be consistent with the maximum benefit to the people of the state, will not unreasonably affect present and anticipated beneficial uses of the water, and will not result in water quality less than that prescribed in the policies.

b. Any activity that produces a waste and discharges to existing high quality waters will be required to meet WDRs that will result in the BPTC of the discharge necessary to

assure pollution or nuisance will not occur, and the highest water quality consistent with the maximum benefit to the people of the state will be maintained.

59. The Antidegradation Policy requires maintenance of high-quality waters of the state unless limited degradation is consistent with the maximum benefit to the people of the state. This General Order requires implementation of BPTC measures consistent with an implementation schedule. Implementation consistent with this General Order will maintain the highest water quality consistent with the maximum benefit to the people of the state.

60. This General Order allows discharges to numerous groundwater bodies, each with its own chemical characteristics. There are not enough data to determine which receiving waters are high quality waters. To the extent a discharge covered under this General Order may be to high quality waters, this General Order authorizes limited degradation consistent with the Antidegradation Policy as described in the findings below.

61. This General Order includes BPTC requirements, an implementation (compliance) schedule, and monitoring and reporting requirements. Nothing in this General Order prevents the Discharger from implementing more than the minimum BPTC measures required.

62. Limited degradation of groundwater by some waste constituents associated with aggregate and concrete wastewaters, after effective source control, treatment, and control measures are implemented, is consistent with the maximum benefit to the people of the state. The economic prosperity of communities and associated industries is of maximum benefit to the people of the state. This provides sufficient justification for allowing the limited groundwater degradation that may occur pursuant to this General Order, provided the terms of the applicable Basin Plan and other applicable State Water Board and Regional Water Board policies are consistently met.

63. The responsible protection and development of the state's finite mineral resources is critical to a sustainable California (PRC, section 2711(f)). Reclamation of mined lands will provide for the protection and subsequent beneficial use of the mined and reclaimed land (PRC, section 2711(b)).

64. Developing local aggregate and concrete facilities is consistent with the maximum benefit to the people of the state. Locating aggregate and concrete supplies near large construction projects reduces haul distances, thus reducing traffic congestion, fuel consumption, and greenhouse gas emissions. Moreover, shorter haul distances reduce the wear on highways, resulting in fewer pavement rehabilitation projects, and can lead to increased safety by decreasing the number of trucks making longer and more frequent trips.

65. The primary constituents of concern in aggregate wastewater that have the potential to degrade water quality include mercury and suspended solids. This General Order contains required BPTC measures to mitigate the constituents' degradation of water quality.

66. The primary constituents of concern in concrete wastewater that have the potential to degrade water quality include alkalinity (high pH), hexavalent chromium, salinity, and

suspended solids. This General Order contains required BPTC measures to mitigate the constituents' degradation of water quality.

BPTC MEASURES AND IMPLEMENTATION SCHEDULE

67. This General Order contains BPTC measures that may be required based on site-specific conditions and technical studies. Because all facilities covered by this General Order may not be in immediate compliance at the time of General Order application, an implementation (compliance) schedule is provided in Attachment B. The BPTC measures apply to facilities based on site activities. Facilities with co-located aggregate and concrete operations must comply with the BPTCs for both types of wastewater. The BPTCs generally consist of improved housekeeping practices, source control, treatment improvements, and process optimization measures.

    a. The following BPTC measures are applicable to all facilities:

        i. Implement good housekeeping practices throughout the site to minimize pollutant exposure and to prevent and promptly address spills. Housekeeping measures include conducting regular employee training, sweeping paved areas, maintaining covered trash receptacles, properly storing chemicals, using secondary containment, maintaining spill response equipment, and promptly addressing spills.

        ii. Isolating waste streams is an effective source control measure to treat high strength wastes or ones with significantly different water quality. Sites that commingle aggregate and concrete wastewaters must separate the wastewater types. Some waste streams, such as hazardous laboratory chemical waste, must be isolated for separate disposal.

    b. The following BPTC measures are applicable to facilities with aggregate operations:

        i. Dischargers may only employ gravimetric methods for gold recovery.

        ii. Aggregate wastewater ponds must meet storage capacity requirements, maintain adequate freeboard, and be designed to protect ponds from floodwater inundation. Dischargers operating undersized ponds must make improvements to increase pond capacity.

        iii. To reduce the potential for pond berm failure, new or replacement wastewater pond berms shall be designed under the supervision of a California licensed civil engineer.

    c. The following BPTC measures are applicable to facilities with concrete operations:

        i. Implement BPTC standard operating procedures (SOPs) to ensure process uniformity, prevent duplication of tasks, minimize errors, etc. Dischargers may develop their own processes or implement the approach described in the Ready-mixed Concrete Process Water Best Management Practices Manual (Draft) developed by CalCIMA.[9]

ii. Dischargers operating concrete wastewater secondary storage ponds must complete the groundwater evaluation provided in Attachment A to determine if a site-specific groundwater characterization is required. Based on the evaluation results, groundwater monitoring wells and ongoing groundwater monitoring may also be required. If significant groundwater degradation is identified from the characterization, the Discharger will be required to either equip the secondary storage pond with a concrete or synthetic liner or decommission the pond.

iii. Concrete wastewater pond systems (primary settling basin and secondary storage pond when used) must meet storage capacity requirements, maintain adequate freeboard, and be designed to protect ponds from floodwater inundation. Dischargers operating undersized ponds must make improvements to increase pond capacity.

TITLE 27 EXEMPTION

68. Aggregate wastewater discharges described in this General Order are exempt from the requirements of the *Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste*, as set forth in CCR, title 27, division 2, subdivision 1, section 20005 et seq. (hereafter Title 27), with the exception of Title 27, chapter 7, subchapter 1, article 1, section 22470 et seq. (SWRCB – Mining Waste Management Regulations). The exemption is based on the following:

a. Wastewater, section 20090(b) – discharges of wastewater to land, including but not limited to evaporation ponds, percolation ponds, or subsurface leach fields, if certain conditions are met.

i. The wastewater exemption conditions are:

a) The applicable Regional Water Board has issued WDRs, reclamation requirements, or waived such issuance.

b) The discharge complies with the applicable water quality control plan.

c) The wastewater does not need to be managed according to chapter 11, division 4.5, title 22 of this code as a hazardous waste.

ii. Aggregate wastewater discharges covered by this General Order requires Dischargers to comply with the applicable Regional Water Board Basin Plan. Aggregate wastewater does not need to be managed as a designated or hazardous waste.

b. Reuse, section 20090(h) – recycling or other use of materials salvaged from waste, or produced by waste treatment, such as scrap metal, compost, and recycled chemicals, provided that discharges of residual wastes from recycling or treatment operations to land shall be done according to applicable provisions of this division.

i. Dischargers may recycle clarified aggregate wastewater after treatment in a wastewater pond or mechanical clarifying system.

ii. Dischargers with a collocated asphaltic concrete pant may recycle broken asphalt, asphaltic roofing shingles, or other petroleum containing products. The petroleum in the products is insoluble at atmospheric temperatures.

69. Concrete wastewater discharges described in this General Order are exempt from the requirements of Title 27. The exemption is based on the following:

a. Wastewater, section 20090(b) – discharges of wastewater to land, including but not limited to evaporation ponds, percolation ponds, or subsurface leach fields, if certain conditions are met.

i. The wastewater exemption conditions are:

a) The applicable Regional Water Board has issued WDRs, reclamation requirements, or waived such issuance.

b) The discharge complies with the applicable water quality control plan.

c) The wastewater does not need to be managed according to chapter 11, division 4.5, title 22 of this code as a hazardous waste.

ii. The concrete wastewater covered by this General Order requires Dischargers to comply with the applicable Regional Water Board Basin Plans. Concrete wastewater does not need to be managed as a designated or hazardous waste.

b. Reuse, section 20090(h) – recycling or other use of materials salvaged from waste, or produced by waste treatment, such as scrap metal, compost, and recycled chemicals, provided that discharges of residual wastes from recycling or treatment operations to land shall be according to applicable provisions of this division.

i. Dischargers may recycle concrete wastewater after treatment in the primary settling basin and secondary storage pond if used. Settling the soil particles allows for reuse of the clarified wastewater.

ii. Clarified wastewater may be reused in concrete processing operations or for cleaning purposes such as washing out delivery truck drums.

iii. Some Dischargers will recycle uncured concrete to make retaining wall blocks or similar, use a reclaimer,[23] or windrow the concrete for subsequent crushing and use as road base.

c. Fully enclosed units, section 20090(i) – waste treatment in fully enclosed facilities, such as tanks, or in concrete-lined facilities of limited areal extent.

i. Concrete wastewater is often discharged to a weired basin or sump (primary settling basin), to settle the solids prior to discharge to a secondary storage pond (when used).

[23] A reclaimer is a device used to separate aggregate from returned concrete to allow reuse of the aggregate to make concrete.

MINING WASTE REQUIREMENTS

70. Aggregate mining is subject to the Surface Mining and Reclamation Act of 1975 (SMARA) (Public Resources Code, sections 2710 – 2796). SMARA provides a comprehensive surface mining and reclamation policy to assure that adverse environmental impacts are minimized, and mined lands are reclaimed to a useable condition.

71. The California Department of Conservation (DOC) Division of Mine Reclamation and the State Mining and Geology Board (SMGB) are jointly charged with administering SMARA requirements.

    a. SMARA requirements are implemented by a lead agency, which is a city, county, San Francisco Bay Conservation and Development Commission, or the SMGB (PRC, section 2728).

    b. Aggregate mining subject to SMARA must have a financial assurance cost estimate and a financial assurance mechanism approved by the lead agency. The financial assurance amount is adjusted and reviewed annually by the lead agency to determine if the amount is adequate to implement the reclamation plan (PRC, sections 2770(a) and 2773.1; 14 CCR, sections 3804(a) and 3805–3805.5).

72. "Mining waste" is defined in Water Code section 13050(q)(1) and means all solid, semisolid, and liquid waste materials from the extraction, beneficiation, and processing of ores and minerals. Mining waste includes, but is not limited to, soil, waste rock, and overburden, as defined in Section 2732 of the Public Resources Code, and tailings, slag, and other processed waste materials, including cementitious materials that are managed at a cement manufacturing facility where the materials were generated. This General Order does not address cement manufacturing facilities (cement kilns). CCR 22480(a) further defines "mining waste" as "waste from the mining and processing of ores and mineral commodities. Mining waste includes: (1) overburden; (2) natural geologic material which have been removed or relocated but have not been processed (waste rock); and (3) the solid residues, sludges, and liquids from the processing of ores and mineral commodities."

73. Water Code section 13260(k) requires a person discharging mining waste to submit:

    a. A report on the physical and chemical characteristics of the waste that could affect its potential to cause pollution or contamination. The report shall include the results of all tests required by regulations adopted by the regional board, any test adopted by the Department of Toxic Substances Control pursuant to Section 25141 of the Health and Safety Code for extractable, persistent, and bioaccumulative toxic substances in a waste or other material, and any other tests that the state board or regional board may require, including, but not limited to, tests needed to determine the acid-generating potential of the mining waste or the extent to which hazardous substances may persist in the waste after disposal.

    b. A report that evaluates the potential of the discharge of the mining waste to produce, over the long term, acid mine drainage, the discharge or leaching of heavy metals, or the release of other hazardous substances.

74. Aggregate facilities excavate aggregate and process it to produce salable materials. Some aggregate facilities operate a gravimetric gold recovery system that concentrates gold and heavy sands for additional processing off-site. The gravimetric concentration (beneficiation) process does not create the potential for extractable, persistent, or bioaccumulative toxic substances to be formed.

75. Although aggregate facilities are unlikely to create conditions that produce acid mine drainage, acid generating potential can be present under certain site conditions. Conditions that generate acid mine drainage exist at mine sites when metal sulfide minerals are oxidized.[24] This General Order requires pH testing to allow evaluation of the potential for acidic wastewater generation. The potential for acidic wastewater to be generated will be evaluated through aggregate wastewater pond monitoring. If the aggregate wastewater pH is below 5.5, the Regional Water Board Executive Officer may request preparation of an Acidic Wastewater Generation Report.

76. Aggregate facilities located in areas with naturally occurring mercury (e.g., California Coast Range) or with historic gold mining can generate wastewater containing low concentrations of mercury. This General Order includes BPTC measures that minimize the potential for adverse water quality impacts and bioaccumulation in aquatic organisms. Similarly, the discharge or leaching of heavy metals or the release of hazardous substances is not expected to occur with implementation of this General Order's BPTC measures. The pH conditions that typically exist in the subsurface greatly limit the mobility of metals in the environment.[25] The solubility of most metals is greatest under acidic conditions; groundwater pH values are typically 6.0-8.5. Furthermore, because aggregate stockpiles do not contain elevated concentrations of metals or hazardous substances, any precipitation that falls on the stockpiles is unlikely to leach or mobilize constituents of concern.

77. Title 27, section 22480(b) requires classification of mining waste based on an assessment of the potential risk of water quality degradation and the classification considerations in Title 27, section 22480(c). Aggregate processing facilities are classified as Group C mining wastes.

    a. Discharges from Group C mining wastes are in compliance with the applicable Regional Water Board Basin Plan, including water quality objectives other than turbidity. This General Order prohibits the direct or indirect discharge of wastewater to a surface water body.

    b. Group C mining wastes may contain low concentrations of hazardous constituents, have no or low acid generating potential, and are readily containable by less stringent measures. The General Order includes BPTCs to minimize the potential for wastewater discharges that may contain low concentrations of mercury. The General

[24] USEPA. 1994. Technical Document, Acid Mine Drainage Prediction, EPA530-R-94-036.

[25] USEPA. 2007. Framework for Metals Risk Assessment, EPA 120/R-07/001.

Order also requires pH monitoring of aggregate wastewater ponds and low pH results (if observed) can trigger an acid generating potential evaluation.

78. Title 27, section 22470(a) requires that mining units comply with the siting and construction standards in Title 27, chapter 7, subchapter 1, article 1, section 22470 et seq. (Mining Waste Management Regulations). Regional Water Boards can impose more stringent requirements based on regional and site-specific conditions.
    a. Group C mining units shall comply with the following siting standards:
        i. New mining units shall not be located on Holocene faults unless displacement will not allow escape of wastes or cause irreparable damage to containment structures.
        ii. New mining units shall be located outside areas of rapid geologic change unless containment structures are designed and constructed to preclude failure.
        iii. All mining units shall be protected from flooding to preclude increased sediment in surface water.
    b. Group C mining units shall comply with the following construction standards:
        i. Containment structures shall be designed by a registered civil engineer.
        ii. Precipitation diversion and drainage facilities shall be designed and constructed to accommodate the anticipated volume of precipitation and peak surface runoff flow from one 10-year, 24-hour storm.
79. Mining units must be closed and maintained in accordance with Title 27, section 22510, so that they no longer pose a threat to water quality. Mining units shall be closed in a manner that will minimize erosion and the threat of degradation from sedimentation.
    a. Financial assurance required by a SMARA lead agency can be used for financial requirements if the Regional Water Board approves the assurance and is named as an alternate payee.
    b. The General Order requires that aggregate dischargers provide their most recent financial assurance cost estimate and financial assurance mechanism when applying for or renewing coverage under this General Order, or for cause at the Regional Water Board Executive Officer's discretion. The documentation must show approval by the SMARA lead agency and the financial assurance mechanism must list the Regional Water Board as an alternate payee. The Regional Water Board will indicate in the NOA whether modifications are necessary to the financial assurance.
80. Compliance with the requirements in this General Order, the NOA, Title 27, an approved SMARA plan, and California Environmental Quality Act (CEQA) mitigation measures is consistent with a waste management strategy designed to protect water quality consistent with Water Code section 13263.1.

REGIONAL WATER BOARD BASIN PLANS

81. Beneficial uses for groundwater are determined by each Regional Water Board and are listed in their respective Basin Plans. Beneficial uses for groundwater include municipal supply (MUN), industrial service supply (IND), industrial process supply (PROC), freshwater replenishment (FRESH), aquaculture (AQUA), wildlife habitat (WILD), water contact recreation (REC-1), agricultural supply (AGR), and groundwater recharge (GWR). Some beneficial uses only apply to certain geographic areas within regions.

82. Basin Plans establish groundwater quality objectives to protect beneficial uses. The objectives may be narrative, numerical, or both. This General Order requires the Discharger to comply with those objectives in receiving groundwater. All WDRs must implement the applicable Regional Water Board's Basin Plan for the region in which the discharge occurs; therefore, this General Order requires Dischargers to comply with all applicable Basin Plan requirements, including any prohibitions and/or water quality objectives, governing the discharge. In the event of a conflict between the requirements of this General Order and the Basin Plan, the more stringent requirement prevails.

83. Compliance with this General Order, the NOA, and any mitigation measures will ensure compliance with the applicable Basin Plan.

84. Some Regional Water Boards require development of, or participation in, a salinity nutrient management plan (SNMP). SNMPs may require implementation of site-specific BPTC measures or participation in basin-wide offset programs. Some Regional Water Boards may require both short-term, site-specific BPTC measures and participation in long-term basin planning efforts. This General Order requires the Discharger to comply with the SNMP requirements of the applicable Regional Water Board.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

85. This General Order is intended to cover both new and existing aggregate and concrete facilities.

    a. The adoption of this General Order for existing aggregate wastewater and concrete wastewater treatment systems involving negligible or no expansion is categorically exempt from the CEQA pursuant to CCR, title 14, section 15301 (ongoing or existing projects). Negligible expansion is typically defined as less than a 10-percent increase over the existing activity.

    b. The State Water Board considered the environmental impacts associated with the adoption of this General Order and prepared an Initial Study in accordance with CCR, title 14, section 15063. Analysis in the Initial Study and early consultation with the responsible and trustee agencies **<did not identify any significant impacts on the environment.>** Therefore, a **<Mitigated>** Negative Declaration was prepared. The State Water Board adopted the **<Mitigated>** Negative Declaration (Resolution 201X-XXXX) on **<DATE>**.

c. New or expanding aggregate and concrete facilities (typically defined as greater than a 10-percent increase over the existing activity) are subject to further CEQA evaluation on a site-specific basis by local agencies performing CEQA evaluations of proposed projects. The potential significant environmental impacts from discharges of aggregate and concrete wastewaters can be mitigated to less than significant impacts by compliance with this General Order, the NOA, and any mitigation measures adopted by local agencies.

d. **<Add finding regarding AB 52>** As required by CEQA section 21080.3.1, the State Water Board provided notice of an opportunity for a tribal cultural resource consultation opportunity on **<date>**. **<Tribe names> OR <No>** tribes requested formal consultation. **<The State Water Board transmitted a project description and draft initial study to the tribes and…>**

OTHER REGULATORY CONSIDERATIONS

86. Dischargers that recycle cured concrete, asphaltic concrete, asphalt shingles, and other such concrete or asphalt materials must comply with California Department of Resources Recycling and Recovery (CalRecycle) requirements as set forth in CCR, title 14, division 7, chapter 3, article 5.9, Construction and Demolition and Inert Debris Transfer/Processing Regulatory Requirements. CalRecycle requirements provide operating standards for facilities that receive, store, handle, transfer, or process construction and demolition debris and inert debris, which have public health and environmental concerns that differ from those of municipal solid waste.

87. Aggregate and concrete facilities that discharge industrial storm water must comply with the requirements of the NPDES General Permit for Storm Water Discharges Associated with Industrial Activities (NPDES No. CAS000001; Order 2014-0057-DWQ) (Storm Water-Industrial General Permit [IGP]). The Storm Water-IGP implements federally required regulations in California for storm water discharges to waters of the United States. The Storm Water-IGP directs use of best management practices to minimize or prevent adverse water quality impacts from industrial storm water pollutants.

88. California Department of Water Resources standards for the construction and destruction of groundwater wells are described in California Well Standards Bulletin 74-90 (June 1991) and Water Well Standards: State of California Bulletin 74-81 (December 1981). These standards, and any more stringent standards adopted by the state or county pursuant to Water Code section 13801, apply to all monitoring wells.

89. Use of a domestic onsite wastewater treatment system (OWTS) is typically permitted through a local agency. In some cases, a Regional Water Board may issue WDRs.

90. Setbacks from wastewater treatment areas, excavation areas, and OWTS from domestic wells, flowing and/or ephemeral streams, lakes/reservoirs, and property lines are provided in this General Order. Setbacks are included as a means of reducing pathogenic risks by coupling pathogen inactivation rates with groundwater travel time to a well or other potential exposure route (e.g., water contact activities). In general, a substantial unsaturated zone reduces pathogen survival compared to saturated soil conditions. Fine

grained (silt or clay) soil particles reduce the rate of groundwater transport and therefore are generally less likely to transport pathogens; coarse grained soil particles or fracture flow groundwater conditions may be more likely to transport pathogens. Setbacks also provide attenuation of other wastewater constituents through physical, chemical, and biological processes. The setbacks provided in this General Order are based on commonly imposed setbacks by regulatory agencies.

CALIFORNIA WATER CODE

91. In compliance with Water Code section 106.3, it is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. This General Order promotes that policy by including discharge specifications and prohibitions, and requiring that, consistent with an implementation schedule, discharges not cause or contribute to exceedances of water quality objectives that have been developed to protect municipal and domestic water supplies. Furthermore, this General Order requires implementation of BPTC measures to control discharges that may degrade waters with quality higher than water quality objectives.
92. Water Code section 13260(a) requires that any person discharging or proposing to discharge waste within any region, other than into a community sewer system, that could affect the quality of the waters of the state, file an RWD to obtain coverage under WDRs or a waiver of WDRs. “Waste” is defined in Water Code section 13050(d). “Waters of the state” is defined in Water Code section 13050(e).
93. Consistent with Water Code section 13241, the State Water Board, in establishing the requirements contained herein, considered factors including, but not limited to, the following:
    a. Past, present, and probable future beneficial uses of water.
    b. Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto.
    c. Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area.
    d. Economic considerations.
    e. The need for developing housing within the region(s).
    f. The need to develop and use recycled water.
94. Water Code section 13263(a) requires that WDRs be prescribed as to the nature of any proposed discharge, existing discharge, or material change in an existing discharge. Such WDRs shall implement any relevant water quality control plans, taking into consideration the beneficial uses to be protected, the water quality objectives reasonably required for those purposes, other waste discharges, the need to prevent nuisance, and the water quality objective requirements of Water Code section 13241.

95. General waste discharge requirements may be prescribed (Water Code, section 13263(i)).

    a. Water Code section 13263(i) states:
    "The state board or a regional board may prescribe general waste discharge requirements for a category of discharges if the state board or that regional board finds or determines that all of the following criteria apply to the discharges in that category:

    i. The discharges are produced by the same or similar operations.

    ii. The discharges involve the same or similar types of waste.

    iii. The discharges require the same or similar treatment standards.

    iv. The discharges are more appropriately regulated under general discharge requirements than individual discharge requirements."

    b. Discharges to land from aggregate and concrete facilities have certain common characteristics, such as similar constituents, concentrations of constituents, and disposal techniques, and require the same or similar treatment standards. Individual WDRs are not necessary because the discharges are similar and discharge requirements would be similar if individual WDRs were issued. These types of discharges are appropriately regulated under a General Order.

96. Technical and monitoring reports specified in this General Order are required (Water Code, section 13267). Failure to furnish the reports by the due date, or falsifying information in the reports, are misdemeanors that may result in assessment of civil liabilities against the Discharger.

    a. Water Code section 13267 states, in part:
    "(b)(1) In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region that could affect the quality of waters 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 report 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."

    b. The technical reports required by this General Order, the NOA, and the MRP are necessary to ensure compliance with this General Order. The burden and cost of preparing the reports are reasonable and consistent with the interest of the state in maintaining water quality.

97. This General Order does not preempt or supersede the authority of municipalities, flood control agencies, or other local, state, or federal agencies to prohibit, restrict, or control discharges of waste subject to their jurisdiction.
98. The State Water Board has notified potential dischargers and other known interested parties of the intent to prescribe WDRs as described in this General Order. Interested parties were provided an opportunity for a public hearing and an opportunity to submit their written views and comments.
99. The State Water Board, in a public meeting, has heard and considered all comments pertaining to the proposed discharge.

IT IS HEREBY ORDERED

IT IS HEREBY ORDERED that pursuant to California Water Code sections 13263 and 13267, the Discharger, 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:

For Dischargers that cannot immediately comply with certain prohibitions or discharge specifications as indicated in the Discharger's report of waste discharge, the Regional Water Board Executive Officer will issue a Notice of Applicability that includes an implementation (compliance) schedule for any BPTC measures in Attachment B that are not in immediate compliance. All compliance dates are determined from the date of notice of applicability issuance.

A. Discharge Prohibitions

The following discharge prohibitions apply to all facilities (aggregate and/or concrete).

1. The direct or indirect discharge of wastewater to surface waters or surface water drainage courses is prohibited.
2. Discharge of any industrial waste (including aggregate wastewater, concrete wastewater, assay waste, laboratory waste, or vehicle maintenance waste) to a septic system is prohibited.
3. Discharge of waste classified as "hazardous," as defined in Section 2521(a) of CCR, title 23, chapter 15, or classified as "designated," as defined in Section 13173 of the Water Code, is prohibited.
4. The discharge of waste in violation of, or not consistent with, the applicable Regional Water Board Basin Plan is prohibited.

5. The discharge or deposit of waste at the facility from sources other than from the aggregate or concrete operations is prohibited. Processing recycled materials (e.g., broken concrete, broken asphalt, asphalt shingles, etc.) that can be used to produce salable materials consistent with the activities of the facility is acceptable. [26]
6. Commingling aggregate wastewater and concrete wastewater is prohibited.
7. Chemical methods to recover gold, such as mercury amalgamation, cyanide leach, or any other chemical method, are prohibited.
8. Bypass around, or overflow from, a wastewater pond (e.g., aggregate wastewater pond, concrete wastewater primary settling basin or secondary storage pond) is prohibited.
9. Disposal of portable (chemical) toilet waste or septage at the facility without WDRs issued by the Regional Water Board addressing the waste is prohibited.

B. Discharge Specifications

1. General Discharge Specifications

The following discharge specifications apply to all facilities (aggregate and/or concrete).

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

b. The Discharger shall implement good housekeeping practices throughout the site to minimize spills of raw materials or waste materials.

c. All stockpiled products shall be managed to prevent erosion of sediment to surface water drainage courses.

d. Chemicals shall be used, stored, and maintained to prevent discharge to surface water drainage courses.

e. The Discharger shall operate all systems and equipment to maximize treatment of the wastewater and optimize the quality of the discharge to the extent practicable.

f. Neither the treatment nor the discharge shall cause a nuisance or condition of pollution as defined by Water Code section 13050.

g. Objectionable odors originating at the facility shall not be perceivable beyond the limits of the property boundary.

[26] Processing includes receiving, storage, and the physical manipulation required to manufacture salable products. Physical manipulation may include crushing, washing, grinding, mixing, heating, etc. Processing includes accepting Portland cement or concrete and washout from uncured Portland cement or concrete handling equipment (such as delivery trucks, pumps, concrete molds, etc.).

h. The Discharger shall comply with all applicable sections of the *Aboveground Storage of Petroleum* regulations (California Health and Safety Code, chapter 6.67, section 25270 et seq.).

i. This General Order is not an NPDES permit issued pursuant to the federal Clean Water Act. Coverage under this General Order does not exempt a facility from the Clean Water Act.

j. Some aggregate facilities and/or concrete facilities may be in areas subject to Regional Water Board SNMPs, which may impose additional requirements for Dischargers. Compliance with SNMPs is required for eligibility under this General Order.

k. The Discharger shall comply with the BPTC implementation schedule included in General Order Attachment B, as implemented in an NOA.

l. The Discharger shall comply with all water quality related mitigation measures from a site-specific CEQA document addressing the facility.

m. Operation of a domestic wastewater onsite wastewater treatment system shall be permitted by a local agency or authorized by a Regional Water Board. Onsite disposal of domestic wastewater containing chemical toilet waste may only be authorized by a Regional Water Board.

n. Discharges of aggregate wastewater and concrete wastewater are subject to setback (minimum horizontal distance) requirements. The Discharger shall comply with the setbacks presented in Table 3.

    i. Existing sites that do not comply with the setbacks provided herein may be allowed under this General Order if nuisance conditions do not result from the noncompliance. Expansion of such noncomplying wastewater systems shall trigger further evaluation of the site setbacks. In some cases, more than one setback standard exists. The following procedure shall be implemented when determining the appropriate setback:

        a) When a setback originates from the California Well Standards, a reduced setback may be allowed based on site-specific conditions; review the California Well Standards for clarification.

        b) When the setback comes from the OWTS Policy, the setback may have been modified in an approved local agency management program. In addition, the Regional Water Board Executive Officer may allow a reduced setback based upon site-specific conditions (e.g., annular seal in a well, groundwater flow direction near water bodies, treatment/disinfection level of wastewater, etc.).

        c) When the setback comes from the California Plumbing Code, the Regional Water Board Executive Officer may not reduce the setback.

        d) Setbacks that are not referenced to a requirement listed above are based on professional judgment and may be revised (increased or reduced) by the Regional Water Board Executive Officer based on site-specific conditions.

Table 3. Minimum Setback Distances for Aggregate and Concrete Wastewater Systems

Wastewater System	Minimum Setback Distance Required			
	Domestic Well	Stream [1]	Property Line	Lake or Reservoir [2]
Septic tank (or similar equipment) or collection system [3]	150 ft [4] 100 ft [5] 50 ft [6]	50 ft [6]	5 ft [6]	200 ft [7] 100 ft 50 ft [6]
Leach field [8]	100 ft [5,6]	100 ft [6] 50 ft	5 ft [6]	200 ft [7] 100 ft [6]
Wastewater pond [9]	150 ft	50 ft	50 ft	150 ft

ft denotes feet

1. A stream shall be measured from the ordinary high-water mark established by fluctuations in water elevation. The high-water mark is indicated by characteristics such as shelving, changes in soil character, vegetation type, presence of litter or debris, or other appropriate means.
2. Lake or reservoir boundary shall be measured from the high-water line. Industrial wastewater ponds are not considered a lake or reservoir for setback purposes.
3. Septic tank (or similar equipment) or collection system addresses wastewater treatment equipment located below ground or that impedes leak detection by routine visual inspection.
4. Setback established by Onsite Wastewater Treatment System Policy, section 7.5.6, may be modified by a local agency management program.
5. California Well Standards, part II, section 8. Site-specific conditions may allow reduced setback or require an increased setback. See discussion in Well Standards.
6. Setback established by California Plumbing Code, Appendix H, Table H 1.7.
7. Setback established by Onsite Wastewater Treatment System Policy, section 7.5.5, may be modified by a local agency management program.
8. Leach field includes all subsurface dispersal systems and similarly purposed configurations.
9. Wastewater pond includes aggregate wastewater ponds, and concrete wastewater primary settling basins and/or secondary storage pond(s).

2. Discharge Specifications for Aggregate Facilities

The following discharge specifications apply to aggregate facilities.

a. Facilities may recycle materials onsite provided the materials are consistent with site activities. For example, facilities that operate asphaltic concrete plants may also recycle asphaltic concrete. Recycled materials are limited to broken concrete, road base, bricks, asphalt shingles, broken asphalt, and other petroleum-rich materials.

b. Wastewater from concrete related sources (e.g., concrete mixing, delivery truck drum washing, etc.) shall not be discharged to an aggregate wastewater pond.

c. Hazardous materials derived from gold recovery or quantification operations (e.g., laboratory assay waste) shall be contained and properly disposed offsite. In some areas of historic gold mining, elemental mercury will be captured in gold recovery activities. Such material shall be collected, properly stored, and disposed offsite as either hazardous waste or salable material.

d. Instream aggregate excavation is prohibited. Excavation within the ordinary high-water mark shall not be performed without explicit authorization from the California State Lands Commission.

e. Coagulant and flocculant use (e.g., dosage, storage, handling, disposal) shall conform to manufacturer directions.

f. In any pond in which excavation is occurring, pond water shall not be pumped to lower floating excavation equipment (e.g., a dredge), to reduce the amount of sediment in the pond, or for any other reason, unless all pumped water is contained within another wastewater pond or, if discharged to surface water, is a permitted discharge under the NPDES program.

g. New or rehabilitated containment berms or levees (e.g., exterior berms, not including interior berms or filter barriers within ponds) that contain or control the flow of water shall be designed and constructed under the supervision of a California licensed civil engineer.

h. All ponds shall be managed to prevent breeding of mosquitoes. In particular:

    i. An erosion control program should assure that small coves and irregularities are not created around the perimeter of the water surface.

    ii. Weeds shall be minimized through control of water depth, a shoreline concrete or synthetic liner, harvesting, or herbicides.

    iii. Dead algae, vegetation, and debris shall not be allowed to accumulate on the water surface.

    iv. Coordination with the local mosquito abatement district to minimize the potential for mosquito breeding can supplement the measures described above in cases where other methods are infeasible.

i. Burrowing animals active in areas that may compromise the integrity of pond containment shall be promptly controlled and repairs to the containment completed as soon as possible.

j. Aggregate wastewater ponds shall have sufficient capacity to accommodate the wastewater flow, design seasonal precipitation, and ancillary infiltration and inflow. Design seasonal precipitation shall be based on the 100-year return annual total precipitation value, distributed monthly in accordance with average (mean) precipitation values.

k. Freeboard shall not be less than two feet in any pond, as measured vertically from the water surface to the lowest point of overflow.

l. Aggregate wastewater ponds may be constructed anywhere within the property boundaries provided that the pond complies with the requirements of this General Order and any requirements imposed by other agencies. To the maximum extent practicable, the wastewater ponds and/or mechanical clarifier(s) shall be sited and/or designed to prevent flood or surface water from inundating the wastewater ponds or otherwise render the wastewater system inoperable. For design purposes, the most

recent Federal Emergency Management Agency (FEMA) approved 100-year base flood elevation shall be used.

m. The Discharger shall maintain a financial assurance mechanism consistent with Title 27, chapter 6, section 22200 et seq. The financial assurance mechanism shall list the Regional Water Board as an alternate payee.

n. Mining units shall comply with the siting and construction standards in Title 27, chapter 7, subchapter 1, article 1, section 22470 et seq. (Mining Waste Management Regulations). Regional Water Boards can impose more stringent requirements based on regional and site-specific conditions. Group C mining units shall comply with the following siting and construction standards:

   i. New mining units shall not be located on Holocene faults unless displacement will not allow escape of wastes or cause irreparable damage to containment structures.

   ii. New mining units shall be located outside areas of rapid geologic change unless containment structures are designed and constructed to preclude failure.

   iii. All mining units shall be protected from flooding to preclude increased sediment in surface water.

   iv. Containment structures shall be designed by a registered civil engineer.

   v. Precipitation diversion and drainage facilities shall be designed and constructed to accommodate the anticipated volume of precipitation and peak surface runoff flow from one 10-year, 24-hour storm.

3. Discharge Specifications for Concrete Facilities

The following discharge specifications apply to concrete facilities.

a. Admixtures used to condition concrete (such as bentonite and fly ash) shall be properly contained onsite to minimize spills and prevent water quality degradation.

b. Facilities may recycle materials onsite provided the materials are consistent with site activities. Recycled materials such as broken concrete, road base, and limited quantities of associated materials (e.g., bricks) are acceptable.

c. All wastewater that contains residual concrete shall only be discharged to the concrete wastewater system (e.g., primary settling basin and secondary storage pond, or engineered alterative).

d. To prevent wastewater discharges from impacting beneficial uses of water quality, primary settling basins or engineered equivalents treating concrete wastewater shall, at a minimum, provide the following:

   i. Shall be designed with a foundation or base capable of providing support for any structures, and prevent failure due to settlement, compression, and all effects of ground motions resulting from at least the maximum probable earthquake, as certified by a California registered civil engineer.

ii. Be designed to ensure all wastewater is contained within the paved pad and discharged to the wastewater system.

iii. Primary settling basins constructed from concrete shall, at a minimum, provide the following:

a) Be free of unsealed joints, significant cracks, or other defects that allow percolation of wastewater to underlying soil. Significant cracks or defects that can result in significant wastewater leakage shall be promptly repaired.

b) Primary settling basin walls and bottom shall be constructed of cast-in-place concrete with reinforcing steel bars and be of sufficient concrete thickness to accommodate regular operations and the vehicle load from maintenance activities (e.g., front end loader for solids cleanout).

c) Vertical concrete side walls shall be keyed into the concrete bottom slab with water-stops in construction joints.

e. When secondary storage ponds are used, they may only be operated consistent with the Concrete Secondary Storage Pond Evaluation requirements provided in Attachment A.

f. Unlined ditches shall not be used to convey clarified concrete wastewater from the primary settling basin to a storage or reuse area. All hydraulic conveyances shall be piped.

g. Concrete wastewater secondary storage ponds constructed after the date of this General Order shall at a minimum be constructed with a low permeability liner (minimum two feet thick compacted clay liner with a hydraulic conductivity value of 1×10^{-6} cm/s or less (lower conductivity)).

h. To prevent synthetic liner damage, heavy equipment (e.g., front end loader, backhoe, etc.) shall not be used to remove solids from an unprotected synthetically lined pond, ditch, or other containment device.

i. The Discharger shall maintain the integrity of a synthetic liner and repair all significant leaks as needed.

j. The concrete wastewater system (primary settling basin and secondary storage pond when used) shall have sufficient capacity to accommodate the wastewater flow, design seasonal precipitation, and ancillary infiltration and inflow. Design precipitation shall be based on the 25-year, 24-hour storm event.

k. Freeboard shall not be less than one foot in the primary settling basin and not less than two feet in any secondary storage pond, as measured vertically from the water surface to the lowest point of overflow.

l. Concrete wastewater shall be treated in a primary settling basin to settle large solids (coarse sand size or larger) prior to discharge of the clarified wastewater to a secondary storage pond (when used).

m. Concrete wastewater pond systems (primary settling basin and secondary storage pond when used) may be constructed anywhere within the property boundary provided the pond complies with the requirements of this General Order and any requirements imposed by other agencies. To the maximum extent practicable, the wastewater treatment system shall be sited and/or designed to prevent flood or surface water from inundating the wastewater system or otherwise render the treatment system inoperable. For design purposes, the most recent FEMA approved 100-year base flood elevation shall be used.

n. Concrete wastewater solids removed from a primary settling basin shall be dried of free draining liquid prior to applying the solids to a stockpile or other temporary storage area. Free draining liquid shall be discharged back to the primary settling basin.

o. New or rehabilitated pond containment berms for secondary storage ponds that contain or control the flow of water shall be designed and constructed under the supervision of a California licensed civil engineer.

p. All ponds shall be managed to prevent breeding of mosquitoes. In particular:

   i. An erosion control program should assure that small coves and irregularities are not created around the perimeter of the water surface.

   ii. Weeds shall be minimized through control of water depth, a shoreline concrete or synthetic liner, harvesting, or herbicides.

   iii. Dead algae, vegetation, and debris shall not be allowed to accumulate on the water surface.

   iv. Coordination with the local mosquito abatement district to minimize the potential for mosquito breeding can supplement the measures described above in cases where other methods are infeasible.

q. Burrowing animals active in areas that may compromise the integrity of a secondary storage pond containment or synthetic liner shall be promptly controlled and repairs completed as soon as possible.

4. Solids Disposal Discharge Specifications

a. Collected screenings, sludge, and other solids removed from liquid wastes shall be disposed of consistent with *Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste*, as set forth in CCR, title 27, division 2, subdivision 1, section 20005 et seq.

b. Any proposed change in solids use or disposal practice from a previously approved practice shall be reported to the Regional Water Board Executive Officer in the next regularly scheduled monitoring report.

c. 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, *Standards for the Use or Disposal of Sewage Sludge*.

C. Groundwater Limitations

a. Release of waste constituents from any treatment unit, delivery system, storage area, pond, or other discharge shall not adversely affect beneficial uses of groundwater or cause an exceedance of any applicable Basin Plan water quality objective for groundwater or surface water.

D. Provisions

All technical reports required herein that involve planning, investigation, evaluation, design, or other work requiring interpretation and proper application of engineering or geologic 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. As required by law, technical reports must bear the signature and/or seal of the registered professional.

1. Aggregate Facility Technical Report Preparation Requirements

a. **Salinity Nutrient Management Plan**. If directed by the Regional Water Board Executive Officer, a Discharger shall prepare and submit an SNMP. The Regional Water Board Executive Officer may also direct the Discharger to participate in an existing SNMP.

b. **Acidic Wastewater Generation Report**. If directed by the Regional Water Board Executive Officer, a Discharger shall prepare and submit an Acidic Wastewater Generation Report that describes the potential to cause pollution or contamination and evaluates the potential of the discharge to produce, over the long term, acidic wastewater, leaching of heavy metals, or the release of other hazardous substances.

c. **Financial Assurances Documentation**. A Discharger shall provide their most recent financial assurance cost estimate and financial assurance mechanism to the Regional Water Board when applying for or renewing coverage under this General Order, or for cause at the Regional Water Board Executive Officer's discretion. The documentation shall include approval by the SMARA lead agency. The financial assurance mechanism shall list the Regional Water Board as an alternate payee.

2. Concrete Facility Technical Report Preparation Requirements

a. **Salinity Nutrient Management Plan**. If directed by the Regional Water Board Executive Officer a Discharger shall prepare and submit an SNMP. The Regional Water Board Executive Officer may also direct the Discharger to participate in an existing SNMP.

b. **Standard Operating Procedures Manual**. Dischargers shall develop written SOPs for concrete manufacturing BPTCs to ensure process uniformity, prevent duplication of tasks, minimize errors, etc. Dischargers may develop their own processes or implement the approach described in the Ready-mixed Concrete Process Water Best Management Practices Manual (Draft) developed by CalCIMA.[9] The SOP manual

shall be maintained on site and be available for immediate reference by site personnel. The SOP manual shall be available for review by State or Regional Water Board staff upon request during a site inspection. The SOP shall be prepared consistent with the compliance schedule in Attachment B.

c. **Groundwater Characterization**. If required by the Concrete Secondary Storage Pond Evaluation, the Discharger shall submit a technical report describing how groundwater quality will be characterized. All groundwater characterization work shall be performed under the supervision of a California licensed civil engineer or geologist. Workplans shall be submitted to the Regional Water Board for approval prior to implementation of the work.

   i. For ponds lined with a low permeability liner, the Discharger may perform grab groundwater sampling or install groundwater monitoring wells. Grab groundwater sample collection shall be described in a **Grab Groundwater Sampling Workplan**. The workplan shall describe the drilling, sampling, and grouting of test holes to sample groundwater upgradient and downgradient of the wastewater pond. All sample collection techniques shall be designed to yield samples representative of the uppermost portion of the first saturated interval below the water table. The workplan shall specify sampling techniques designed to ensure that representative samples of sufficient volume are obtained and analyzed.

      a) Upon completion of the grab groundwater sampling, a **Groundwater Characterization Report** shall be submitted within **90 days** of completing the field work. The report shall describe the sample collection and test hole grouting, and identify, describe, and justify any deviations from the approved workplan.

   ii. For installation of groundwater monitoring wells or evaluation of an existing groundwater monitoring well network, the Discharger shall submit a **Groundwater Monitoring Workplan**[27] and a **Groundwater Sampling and Analysis Plan**. The workplan shall describe the installation of groundwater monitoring wells that monitor groundwater upgradient and downgradient of the wastewater pond. All groundwater monitoring wells shall be designed to yield samples representative of the uppermost portion of the first saturated interval below the water table. The workplan shall specify sampling techniques designed to ensure that representative samples of sufficient volume are obtained and analyzed.

      a) Upon completion of the groundwater well installation, a **Groundwater Monitoring Well Installation Report,** including results from the initial

[27] Some Dischargers may be tasked with characterizing groundwater quality. Grab groundwater sampling may be acceptable to provide such characterizations. The Discharger shall consult with Regional Water Board staff to determine the appropriate level of effort in collecting groundwater samples. In cases where groundwater monitoring is required at a wastewater pond, installation of groundwater monitoring wells is the only acceptable approach.

groundwater sample event, shall be submitted within **90 days** of completing the field work. The report shall describe the well installation, and identify, describe, and justify any deviations from the approved workplan.

3. Standard Provisions

a. Bypass (the intentional diversion of waste streams from any portion of a treatment system) is prohibited. The Regional Water Board and/or Executive Officer may take enforcement action against the Discharger for bypass unless the bypass was:

i. Unavoidable and/or an Unscheduled Bypass.

a) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage. Severe property damage means substantial physical damage to property, damage to the treatment systems that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production; and

b) There were no feasible alternatives to bypass, such as the use of auxiliary treatment systems or retention of untreated waste. This condition is not satisfied if adequate backup equipment or storage systems for aggregate and concrete wastewaters should have been installed in the exercise of reasonable engineering judgement to prevent a bypass that would otherwise occur during normal periods of equipment downtime or preventative maintenance; or

ii. A Scheduled Bypass.

a) Bypass is required for essential maintenance to ensure efficient operation,

b) Groundwater limitations are not exceeded,

c) The Discharger notifies the appropriate Regional Water Board's Executive Officer **10 days** in advance, and

d) The prohibition against discharge to surface water is not violated.

b. A Discharger that wishes to establish the affirmative defense of an upset (see definition under Provision D.6) in an action brought for noncompliance shall demonstrate, through properly signed, contemporaneous operating logs, or other evidence, that all the following is true:

i. An upset occurred, and the cause(s) can be identified.

ii. The wastewater treatment system was being properly operated at the time of the upset.

iii. The Discharger submitted notice of the upset consistent with the reporting requirements contained in Provision D.4.a.

iv. The Discharger complied with any remedial measures required by this General Order, the NOA, or direction from the Regional Water Board's Executive Officer. In

any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof.

c. The requirements prescribed herein do not authorize the commission of any act causing damage to the property of another, and do not protect the Discharger from liabilities under federal, state, or local laws. This General Order does not convey any property rights or exclusive privileges and does not create a vested right to continue discharging wastewater.

d. This General Order does not relieve the Discharger from responsibility to obtain other necessary local, state, or federal permits to construct facilities necessary for compliance with this General Order, nor does this General Order prevent the imposition of additional standards, requirements, or conditions by another agency.

e. The prohibitions, requirements, limitations, and provisions of this General Order are severable. If any provision of this General Order is held invalid, the remainder of this General Order shall not be affected.

f. The Discharger shall ensure that all site operating personnel are familiar with the contents of the NOA and this General Order. A copy of this General Order, the NOA, and technical reports required by this General Order (not including previously submitted monitoring reports) shall be kept at the facility for reference by operating personnel.

g. Access to the wastewater treatment systems shall be limited to authorized persons.

h. The Discharger shall comply with all conditions of this General Order. Any noncompliance with this General Order constitutes a violation of the California Water Code and/or appropriate Regional Water Board Basin Plan and may be grounds for an enforcement action.

i. The State Water Board will review this General Order periodically and revise when necessary.

j. After notice and opportunity for a hearing, coverage under this General Order may be terminated or modified for cause, including, but not limited to, any of the following:

   i. Violation of any of the terms or conditions contained in this General Order.

   ii. Obtaining coverage under this General Order by misrepresentation or failure to fully disclose all relevant facts.

   iii. A change in any condition that results in either a temporary or permanent need to reduce or eliminate the authorized discharge.

   iv. A material change in the character, location, or volume of discharge.

k. Before making a material change in the character, location, or volume of discharge, the Discharger shall notify the Regional Water Board Executive Officer. The Regional Water Board's Executive Officer may require that an RWD be submitted. A material change includes, but is not limited to:

   i. An increase in area or depth used for waste disposal beyond that specified in the NOA.

   ii. A significant change in disposal method, location, or volume.

l. At least **90 days** prior to termination or expiration of any lease, contract, or agreement involving disposal or off-site reuse of treated wastewater used to justify the capacity authorized herein and assure compliance with this General Order, the Discharger shall notify the Regional Water Board's Executive Officer in writing of the situation and of what measures have been taken or are being taken to ensure full compliance with this General Order and the NOA.

m. Except for material determined to be confidential in accordance with California law, all reports prepared in accordance with terms of this General Order shall be available for public inspection at the offices of the Regional Water Board. Data on waste discharges, water quality, geology, and hydrogeology are not confidential.

n. The Discharger shall take all reasonable steps to minimize any adverse impact to waters of the state resulting from noncompliance with this General Order. Such steps shall include accelerated or additional monitoring as necessary to determine the nature and impact of the noncompliance.

o. The Discharger shall maintain in good working order, and operate as efficiently as possible, any facility, control system, or monitoring device installed to achieve compliance with this General Order and the NOA.

p. The Discharger shall permit representatives of the Regional Water Board and/or State Water Board, upon presentation of credentials, to:

   i. Enter premises where wastes are treated, stored, or disposed of, and facilities in which any records are kept.

   ii. Copy any records required under the terms and conditions of this General Order.

   iii. Inspect at reasonable hours, monitoring equipment required by this General Order.

   iv. Sample, photograph, and/or video record any discharge, waste material, waste treatment system, or monitoring device.

q. For any electrically operated equipment at the site, the failure of which would cause loss of control or loss of containment of waste materials, or violation of this General Order, the Discharger shall employ safeguards to prevent loss of control over wastes. Such safeguards may include alternate power sources, standby generators, retention capacity, operating procedures, or other means.

r. The fact that it would have been necessary to halt or reduce the permitted activity to maintain compliance with this General Order shall not be a defense for the Discharger's violations of the General Order.

s. The discharge shall remain within the disposal area(s) designated in the NOA at all times.

t. In the event of any change in control or ownership of the facility or wastewater disposal areas, the Discharger must immediately notify the succeeding owner or operator of the existence of this General Order by letter, a copy of which shall be immediately forwarded to the Regional Water Board's Executive Officer.

u. To assume operation as Discharger under this General Order, the succeeding owner or operator must submit a new Form 200 to the Regional Water Board. Upon review of the Form 200, Regional Water Board staff will determine if coverage under this General Order is still appropriate. The Regional Water Board's Executive Officer will issue an NOA when coverage under this General Order has been authorized for the new owner or operator. Some Regional Water Boards use other administrative mechanisms to transfer owner or operator responsibility. Dischargers shall comply with the transfer requirements implemented by the Regional Water Board.

v. The Discharger shall pay an annual fee to the State Water Board in accordance with the fee schedule for each fiscal year (CCR, title 23, section 2200). Fees are based on the threat to water quality and complexity ratings determined by the Regional Water Board staff and are subject to revision by the State Water Board. Annual invoices are issued by the State Water Board for the state fiscal year (July 1 to June 30).

4. General Reporting Provisions

a. If the Discharger does not comply, or will be unable to comply, with a requirement related to pond freeboard, bypass, or overflow issues, the Discharger shall notify the appropriate Regional Water Board staff by telephone. Notification shall occur as soon as the Discharger or its agents have knowledge of such noncompliance or potential for noncompliance. Current phone numbers for Regional Water Board offices can be found on the NOA or on the Internet at:
<https://www.waterboards.ca.gov/about_us/contact_us/rwqcbs_directory.html>

   i. The Discharger shall confirm this notification in writing within **10 days**. The written notification shall state the date, time, nature, and cause of noncompliance, immediate response taken, and a schedule for corrective actions.

b. In the event of a wastewater containment failure, the Discharger shall immediately notify the California Governor's Office of Emergency Services. Notification shall be provided as soon as possible and when the notice can be provided without substantially impeding cleanup or other emergency measures (Water Code, section 13271). A written report to the Regional Water Board shall be submitted within **10 days** of the failure that describes the cause of the failure and how a recurrence will be prevented. Such a failure shall be promptly corrected in accordance with the requirements of this General Order.

c. All reports submitted in response to this General Order, including monitoring reports, shall be signed by a person identified below:

   i. For a corporation: by a principal executive officer of at least the level of senior vice-president.

   ii. For a partnership or sole proprietorship: by a general partner or the proprietor.

   iii. For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected or appointed official.

   iv. A duly authorized representative of a person described above, if all the following are completed:

      a) The authorization is made in writing by a person described above.

      b) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a waste management unit, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position).

      c) The written authorization is submitted to the Regional Water Board.

d. Any person signing a document submitted in response to this General Order, including monitoring reports, shall make the following certification:
"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

e. The Discharger shall electronically submit a copy of each monitoring report and any other reports required by this General Order to the appropriate Regional Water Board, as directed in the NOA.

5. Monitoring Provisions

a. The Discharger shall comply with the MRP issued with the NOA and with any future revisions, as specified by the appropriate Regional Water Board's Executive Officer. An MRP is provided in Attachment E, which is attached and made a part of this General Order. However, the Executive Officer may modify or replace the MRP for site-specific treatment and disposal conditions when issuing the NOA or revise the MRP when deemed necessary.

b. The Discharger shall submit to the Regional Water Board on or before each compliance report due date the specified document or report detailing compliance or noncompliance with the specific schedule date and task. If noncompliance is reported,

the Discharger shall also state the reasons for noncompliance and provide a schedule to come into compliance.

c. Consistent with Water Code section 13176, all analyses shall be conducted by a laboratory that has accreditation for the analyses by the State Water Board Division of Drinking Water Environmental Laboratory Accreditation Program. Field test instruments (such as those used to test pH, dissolved oxygen, turbidity, and temperature) may be used provided that:

   i. The user is trained in proper use and maintenance of the instruments.

   ii. The instruments are calibrated prior to monitoring events at the frequency recommended by the manufacturer.

   iii. Instruments are serviced and/or calibrated by the manufacturer at the recommended frequencies.

   iv. Calibration reports are maintained and available for at least three years.

d. The Discharger shall report the results of any monitoring done more frequently than required by the MRP in the next regularly scheduled monitoring report. Values obtained through additional monitoring shall be used in calculations as appropriate.

e. Wastewater samples shall be collected downstream of all treatment works where a sample representative of the discharge can be obtained.

f. The Discharger shall furnish, within a reasonable time, any information requested by Regional Water Board staff to determine whether cause exists for modifying, revoking, reissuing, or terminating the Discharger's coverage under this General Order. The Discharger shall also furnish to the Regional Water Board, upon request, copies of records required to be kept by this General Order.

g. All noncompliance issues shall be reported in the next regularly scheduled monitoring report in addition to any other reporting requirements.

h. The Discharger shall retain records of all monitoring information, including all calibration and maintenance records, all original strip chart recordings of continuous monitoring instrumentation, copies of all reports required by this General Order, and records of all data used to complete the application for this General Order. Records shall be maintained for a minimum of 3 years from the date of sample, measurement, report, or application. This period may be extended during any unresolved litigation regarding this discharge or when requested by the Regional Water Board's Executive Officer.

i. All monitoring and analysis instruments and devices used by the Discharger to fulfill the prescribed MRP shall be properly maintained and calibrated as recommended by the manufacturer to ensure their continued accuracy.

j. The Discharger shall construct all groundwater monitoring wells to meet or exceed the standards stated in Department of Water Resources Bulletins 74-81, 74-90, and subsequent revisions, unless deviation is approved by the Regional Water Board

Executive Officer or the local well construction enforcing agency and shall comply with the reporting provisions for wells (Water Code, section 13751).

6. Definitions

a. The following are definitions of certain terms used in this General Order:

i. A day is the mean solar day of 24 hours beginning at mean midnight. All references to "day" in this General Order are calendar days.

ii. A grab sample is an individual sample collected in less than 15 minutes.

iii. Upset means an exceptional incident in which there is unintentional and temporary noncompliance with effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper action.

CERTIFICATION

I, Jeanine Townsend, Clerk to the Board, do hereby certify that this General Order with all its attachments is a full, true, and correct copy of a General Order adopted by the State Water Board, on --date--.

AYE:
NAY:
ABSENT:
ABSTAIN:

_____

Jeanine Townsend
Clerk to the Board

ATTACHMENT A
CONCRETE SECONDARY STORAGE POND EVALUATION

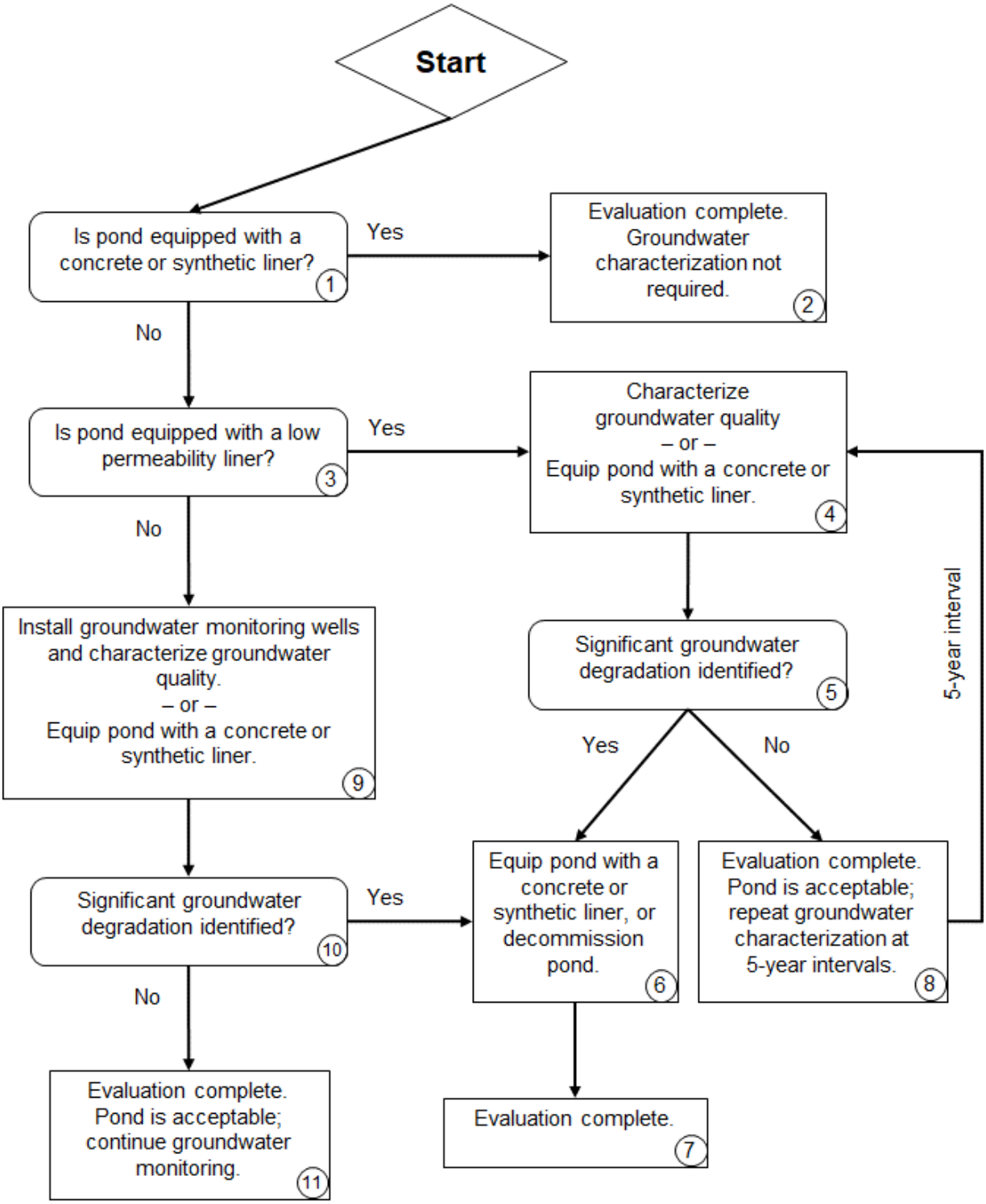
Introduction

This evaluation is only required for secondary storage ponds that receive concrete wastewater.

Dischargers applying for coverage under this General Order shall evaluate their existing and/or proposed secondary storage ponds as described herein. The evaluation will allow determination of the acceptability of the ponds, when ponds require lining to minimize percolation, and if groundwater monitoring is required to determine the water quality impacts from operating the concrete wastewater pond.

To begin the evaluation, go to “START” on Figure A-1 on the following page. Descriptions of the flowchart steps begin on page A-3.

Figure A-1. Evaluation for Concrete Secondary Storage Ponds



Evaluation for Concrete Secondary Storage Ponds

1. *Is pond equipped with a concrete or synthetic liner?* Is the wastewater pond equipped with a concrete or synthetic liner (e.g., lined with polyvinyl chloride (PVC), high density polyethylene (HDPE), or butyl rubber)? << If yes, go to Step 2. If no, go to Step 3. >>
2. *Evaluation complete. Groundwater characterization not required*. For the purposes of this evaluation, Dischargers operating wastewater ponds equipped with concrete or synthetic liners are not required to characterize groundwater associated with the lined ponds. << Stop, this evaluation is complete. >>
3. *Is pond equipped with a low permeability liner?* Is the wastewater pond equipped with a low permeability liner (e.g., compacted clay liner at least two feet thick with a vertical hydraulic conductivity of 1×10^{-6} cm/s or less [lower conductivity])? << If yes, go to Step 4. If no, go to Step 9. >>
4. *Characterize groundwater quality, or equip pond with a concrete or synthetic liner.* Dischargers who propose to operate a wastewater pond equipped with a low permeability liner are required to either submit a groundwater characterization with their application for General Order coverage or equip the pond with a concrete or synthetic liner.
    a. Characterize Groundwater Quality – the Discharger shall characterize first-encountered groundwater (water table) quality upgradient and downgradient of the pond being evaluated. Upgradient samples shall be in an area upgradient of the pond and any groundwater mound that the pond may create, and in an area away from other contaminant sources, including those that may exist offsite. Requirements for the groundwater characterization and groundwater monitoring well network are described in Provision D.2.d.
    b. Equip Pond with a Concrete or Synthetic Liner – installation of a concrete or synthetic liner shall be consistent with the compliance schedule in Attachment B.
    c. << If you characterize the groundwater quality, go to Step 5. If you equip the pond with a concrete or synthetic liner, stop, this evaluation is complete. >>
5. *Significant groundwater degradation identified?* For the purposes of this evaluation, the wastewater pond has degraded groundwater to an unacceptable extent if significant groundwater degradation is identified. << If yes, go to Step 6. If no, go to Step 8. >>
6. *Equip pond with a concrete or synthetic liner, or decommission pond*. The Discharger shall equip the wastewater pond with a concrete or synthetic liner if significant groundwater degradation is identified in the groundwater characterization. Installation of a concrete or synthetic liner shall be consistent with the compliance schedule in Attachment B. Alternatively, the Discharger may choose to decommission the pond. Installation of a low permeability liner is not allowed after significant groundwater degradation has been identified. << Go to Step 7. >>

7. *Evaluation complete.* Once the wastewater pond has been equipped with a concrete or synthetic liner, or the pond has been decommissioned, the Discharger may discontinue groundwater monitoring for the purposes of this evaluation. << Stop, this evaluation is complete. >>

8. *Evaluation complete. Pond is acceptable; repeat groundwater characterization at 5-year intervals*. The wastewater pond as it exists with a low permeability liner, is deemed acceptable for the purposes of this evaluation. Repeat groundwater characterization every five years. << Stop, this evaluation is complete. When the groundwater characterization is repeated every 5 years, repeat this flowchart evaluation; begin with Step 4. >>

9. *Install groundwater monitoring wells and characterize groundwater quality, or equip pond with a concrete or synthetic liner.* Dischargers operating an unlined wastewater pond are required to either install groundwater monitoring wells and characterize the groundwater, or equip the pond with a concrete or synthetic liner.

    a. Characterize Groundwater Quality – the Discharger shall characterize first-encountered groundwater (water table) quality upgradient and downgradient of the pond being evaluated. Upgradient monitoring wells shall be in an area upgradient of the pond and any groundwater mound that the pond may create, and in an area away from other contaminant sources, including those that may exist offsite. If it is not possible to install monitoring wells upgradient of contaminant sources, intra-well characterization of groundwater quality shall be performed. Requirements for the groundwater characterization and groundwater monitoring well network are described in Provision D.2.d.

    b. Equip Pond with a Concrete or Synthetic Liner – installation of a concrete or synthetic liner shall be consistent with the compliance schedule in Attachment B.

    c. << If you install groundwater monitoring wells and characterize the groundwater quality, go to Step 10. If you equip the pond with a concrete or synthetic liner, stop, this evaluation is complete. >>

10. *Significant groundwater degradation identified?* For the purposes of this evaluation, the wastewater pond has degraded groundwater to an unacceptable extent if significant groundwater degradation is identified. << If yes, go to Step 6. If no, go to Step 11. >>

11. *Evaluation complete. Pond is acceptable; continue groundwater monitoring*. If the unlined wastewater pond is determined to not have caused significant groundwater degradation, the Discharger may continue to operate the unlined wastewater pond with ongoing groundwater monitoring. Alternatively, a Discharger may install a low permeability liner (as described in Step 3) and repeat the groundwater characterization at 5-year intervals (as described in Step 8). << Stop, this evaluation is complete. >>

ATTACHMENT B
BPTC MEASURES IMPLEMENTATION SCHEDULE

The following table provides best practicable treatment or control (BPTC) measures and an implementation schedule for Order WQ-XXXX-XXXX-DWQ General Waste Discharge Requirements for Aggregate and/or Concrete Facilities (General Order). The BPTC measures are further described in the General Order under the section, BPTC Measures and Implementation Schedule. The Regional Water Board Executive Officer will issue a notice of applicability (NOA) that includes an implementation schedule for any items that are not in immediate compliance. All compliance dates are determined from the date of NOA issuance.

The compliance timeframes for the BPTC measures are defined as follows:

a. Short-term – Compliance is required 180 days (approximately 6 months) after NOA issuance.

b. Moderate-term – Compliance is required 545 days (approximately 18 months) after NOA issuance.

c. Long-term – Compliance is required 730 days (approximately 24 months) after NOA issuance.

d. NA – Item is not applicable.

Table B-1. BPTC Requirements for All Facilities

BPTC No.	BPTC Measure	Aggregate Facilities	Concrete Facilities
R1	The Discharger shall implement good housekeeping practices, conduct regular employee training to support good housekeeping practices, and conduct regular inspections and maintenance of the site and equipment.	Short-term	Short-term
R2	The Discharger shall separate aggregate and concrete wastewaters.	Moderate-term	Moderate-term
R3	The Discharger shall submit a salinity nutrient management plan (SNMP) or participate in an existing SNMP if directed by the Regional Water Board Executive Officer.	Short-term	Short-term

Table B-2. BPTC Requirements for Aggregate Wastewater and Ponds

BPTC No.	BPTC Measure	Aggregate Facilities	Concrete Facilities
A4	The Discharger shall complete pond improvements to comply with the aggregate wastewater pond capacity and floodwater inundation requirements.	Long-term	NA
A5	The Discharger shall submit an Acidic Wastewater Generation Report if directed by the Regional Water Board Executive Officer.	180 days after EO direction.	NA

Table B-3. BPTC Requirements for Concrete Wastewater, Primary Settling Basins, and Secondary Storage Ponds

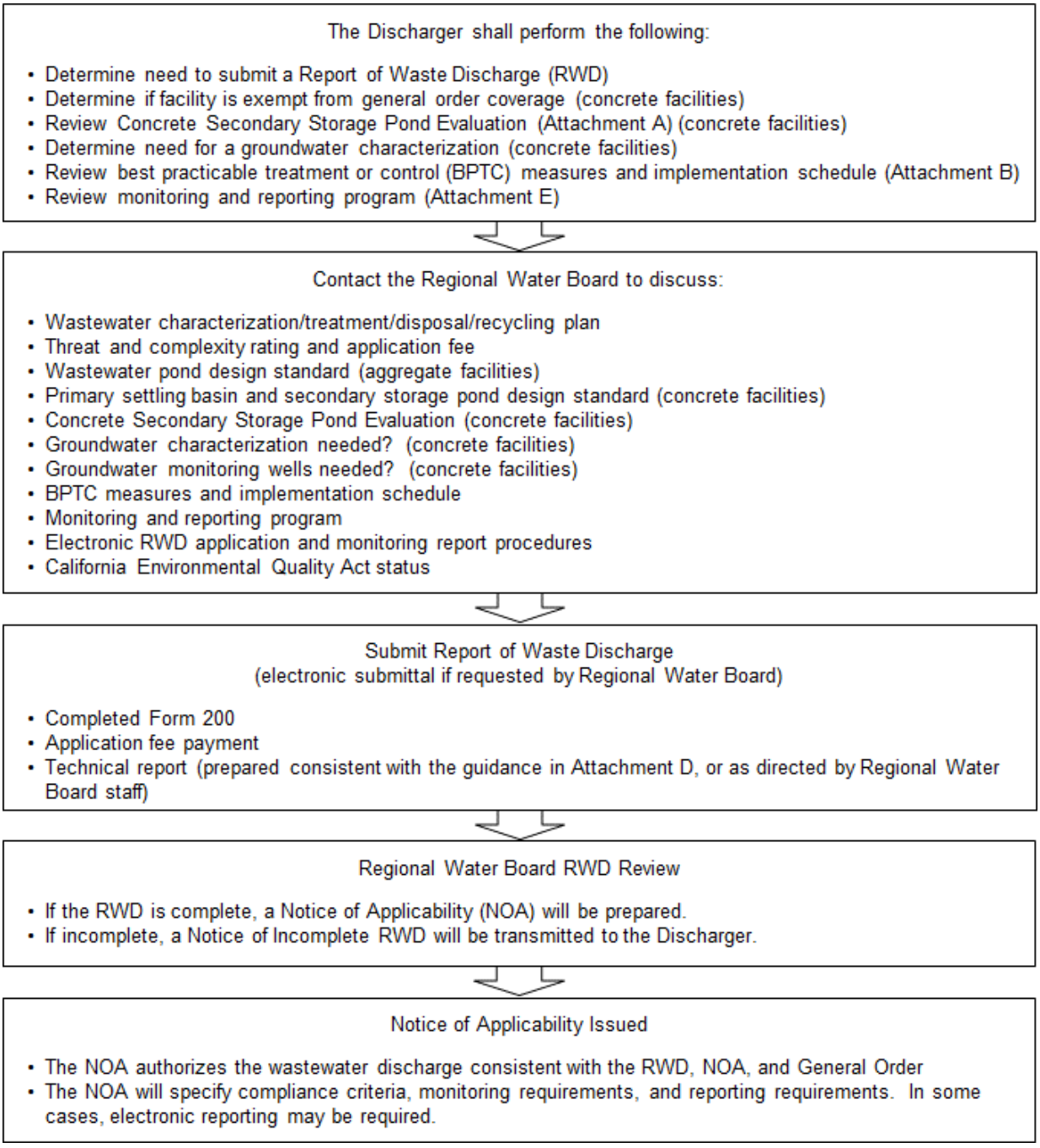
BPTC No.	BPTC Measure	Aggregate Facilities	Concrete Facilities
C6	The Discharger shall complete primary settling basin and/or secondary storage pond improvements to comply with storage capacity requirements and floodwater inundation requirements.	NA	Long-term
C7	The Discharger shall complete facility improvements so that concrete wastewater is discharged to a primary settling basin (or engineered equivalent) before clarified wastewater is directed to a secondary storage pond (or engineered equivalent).	NA	Long-term
C8	The Discharger shall prepare a Standard Operating Procedures Manual for concrete manufacturing BPTCs.	NA	Short-term
C9	The Discharger shall complete the Concrete Secondary Storage Pond Evaluation in Attachment A of the General Order.	NA	Short-term
C10	The Discharger shall install a concrete or synthetic pond liner if required by the Concrete Secondary Storage Pond Evaluation.	NA	Long-term
C11	The Discharger shall construct (or designate) a lined drying pad for primary settling basin solids.	NA	Moderate-term

Table B-4. BPTC Requirements for Groundwater Characterization and Monitoring

BPTC No.	BPTC Measure	Aggregate Facilities	Concrete Facilities
G12	If the Concrete Secondary Storage Pond Evaluation allows grab groundwater sampling, the Discharger shall submit a Grab Groundwater Sampling Workplan. A Groundwater Characterization Report shall be submitted within **90 days** of completing the field work.	NA	Short-term
G13	If the Concrete Secondary Storage Pond Evaluation requires installation of groundwater monitoring wells or the Discharger elects to install monitoring wells, the Discharger shall submit a Groundwater Monitoring Well Installation Workplan and a Groundwater Sampling and Analysis Plan. A Groundwater Monitoring Well Installation Report shall be submitted within **90 days** of completing the field work.	NA	Short-term

ATTACHMENT C
GENERALIZED PERMIT APPLICATION PROCESS SUMMARY

Figure C-1. Generalized Permit Application Process Flowchart



ATTACHMENT D
RECOMMENDED REPORT OF WASTE DISCHARGE FORMAT

The information presented in the Report of Waste Discharge (RWD) is relied upon by Regional Water Board staff to prepare the Notice of Applicability (NOA) for coverage by this General Order. The Discharger shall ensure that the information presented in the RWD is accurate. Misstatements, errors, or omissions that exist in the RWD may be included in the NOA and become enforceable.

The RWD outline presented below is intended to provide general guidance for Dischargers and consultants. Submitting an RWD consistent with this format will assist the Discharger in providing the necessary information to Regional Water Board staff, expedite review of the RWD, and streamline the permitting process. It is recommended that the Discharger contact their Regional Water Board representative to discuss the project before preparing the RWD.

1. BACKGROUND
    1.1. Facility Description
        1.1.1. Describe what the facility does and any previous uses at the site.
            1.1.1.1 Include descriptions of any related activities, e.g., producing asphaltic concrete, recycling broken concrete or asphaltic concrete.
        1.1.2. Provide a site location map and a site plan.
            1.1.2.1 A site plan is a scaled map or series of maps that show facility structures, clarifiers, primary settling basins, secondary storage ponds, storm water ponds, excavation areas, concrete reclaimers, groundwater wells, and storage areas (for salable products, raw materials, waste solids [concrete windrows, stockpiles], recycled materials, etc.).
            1.1.2.2 Provide information on the location of the nearest surface water body.
        1.1.3. Provide the Assessor Parcel Number (APN), section number, township, and range.
        1.1.4. Describe how domestic wastewater is managed (e.g., community sewer connection, portable toilets, septic system).
        1.1.5. For existing facilities, describe proposed changes (e.g., new excavation areas, pond closures, wastewater disposal activities, recycling activities, etc.).
    1.2. California Environmental Quality Act (CEQA)
        1.2.1. If a CEQA evaluation was prepared or a categorical exemption employed, provide a copy to the Regional Water Board.

2. AGGREGATE PROCESSING ACTIVITIES
   2.1. Wastewater Generation, Treatment, and Disposal
      2.1.1. Describe the aggregate processing operations and identify activities and areas that generate wastewater.
      2.1.2. Wastewater Management
         2.1.2.1 Describe the wastewater collection, treatment, and disposal systems, and if wastewater is recycled, if applicable.
         2.1.2.2 Describe chemicals used in the process, such as coagulants or flocculants.
         2.1.2.3 Describe how the clarifiers and/or wastewater ponds are sited and/or designed to prevent flood or surface water inundation.
      2.1.3. Provide a water balance to demonstrate that the wastewater ponds have sufficient capacity and meet the precipitation design standard.
   2.2. Solids Generation and Disposal
      2.2.1. Describe how wastewater solids are stored, disposed, or recycled.
   2.3. Bulk Materials Storage and Handling
      2.3.1. Describe how bulk materials (e.g., chemicals, salable products, recycled materials) are stored onsite.
   2.4. Mining Waste Considerations
      2.4.1. Siting and Construction
         2.4.1.1 Describe any site-specific modifications (completed or proposed) to the aggregate wastewater systems to address Title 27 mining unit requirements.
      2.4.2. Financial Assurance
         2.4.2.1 Provide the most recent financial assurance cost estimate and financial assurance mechanism. Include the approval by the SMARA lead agency. Provide evidence that the financial assurance mechanism lists the Regional Water Board as an alternate payee.

3. CONCRETE MANUFACTURING ACTIVIITIES
   3.1. Wastewater Generation, Treatment, and Disposal
      3.1.1. Describe the concrete manufacturing operations and identify activities and areas that generate wastewater.

3.1.2. Describe the returned concrete process (e.g., uncured concrete windrowed, processed through a reclaimer, etc.). Describe how concrete wastewater is generated.

3.1.3. Wastewater Management

3.1.3.1 Describe the wastewater collection, treatment, storage, disposal, or recycle systems.

3.1.3.2 Describe chemicals used in the process, such as cleaning agents used to remove concrete residue.

3.1.3.3 Provide construction details and design capacities for primary settling basins or engineered alternatives.

3.1.3.4 Provide construction details and design capacities for secondary storage ponds or engineered alternatives. If the ponds are lined, also provide pond liner details (material, age, and condition).

3.1.3.5 Describe how the wastewater systems (e.g., primary settling basins, secondary storage ponds) are sited and/or designed to prevent flood water inundation.

3.1.4. Provide a water balance to demonstrate that the wastewater systems (e.g., primary settling basins, secondary storage ponds) have sufficient capacity and meet the precipitation design standard.

3.2. Solids Generation and Disposal

3.2.1. Describe how wastewater solids are generated, stored, and disposed or recycled.

3.2.2. Describe how windrowed concrete is stored and recycled.

3.3. Bulk Materials Storage and Handling

3.3.1. Describe how bulk materials (e.g., chemicals, salable products, recycled materials) are stored onsite to prevent spills and managed to minimize storm water contact (when needed).

4. RECYCLED MATERIALS

4.1. If materials (e.g., broken asphalt, broken concrete, returned concrete, bricks, etc.) are recycled onsite, describe the recycling process, handling and storage methods (e.g., stockpiles), and final products (e.g., road base).

5. WATER QUALITY

5.1. Supply Water

5.1.1. Describe the process water supply source.

5.2. Aggregate Wastewater (existing facilities)

5.2.1. Facilities that have characterized mercury concentrations in aggregate wastewater ponds pursuant to an existing MRP may submit a summary of the data for consideration in developing the notice of applicability.

5.2.2. Characterize the acidity (pH) of aggregate wastewater ponds. Provide the pH data in tabular format and identify any pH results below 5.5.

5.3. Concrete Wastewater (existing facilities)

5.3.1. If available, provide data in tabular format to characterize the concrete wastewater for the constituents listed in the General Order MRP (Attachment E, Concrete Wastewater Pond Monitoring section).

5.4. Groundwater (concrete facilities only)

5.4.1. If required by the Concrete Secondary Storage Pond Evaluation, provide a groundwater characterization as described in Provision D.2.c of the General Order.

6. BPTC IMPLEMENTATION

6.1. List any required BPTC measures not in immediate compliance.

ATTACHMENT E
MONITORING AND REPORTING PROGRAM

This monitoring and reporting program (MRP) describes requirements for monitoring an aggregate and/or concrete facility wastewater system that is covered under State Water Resources Control Board (State Water Board) Order WQ 201Y-XXXX General Waste Discharge Requirements for Aggregate and/or Concrete Facilities (General Order). This MRP is issued pursuant to California Water Code section 13267. The Discharger shall not implement any changes to this MRP unless and until a revised MRP is issued by the Regional Water Quality Control Board (Regional Water Board) Executive Officer.

The State Water Board and Regional Water Boards have transitioned to a paperless office system. Additional information regarding submittal of electronic reports is provided under the Reporting section of this MRP.

California Water Code section 13267(b) states, in part:

> *"In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region that could affect the quality of waters 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 report 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."*

California Water Code section 13268 states, in part:

> *"(a)(1) Any person failing or refusing to furnish technical or monitoring program reports as required by subdivision (b) of Section 13267, or failing or refusing to furnish a statement of compliance as required by subdivision (b) of section 13399.2, or falsifying any information provided therein, is guilty of a misdemeanor, and may be liable civilly in accordance with subdivision (b).*
>
> * * *
>
> *(b)(1) Civil liability may be administratively imposed by a regional board in accordance with Article 2.5 (commencing with Section 13323) of Chapter 5 for a violation of subdivision (a) in an amount which shall not exceed one thousand dollars ($1,000) for each day in which the violation occurs."*

The Discharger owns and operates the wastewater system that is subject to the Notice of Applicability (NOA) for Order WQ 201Y-XXXX-DWQ. The monitoring reports are necessary to ensure that the Discharger complies with the NOA and General Order. Pursuant to California Water Code section 13267, the Discharger shall implement this MRP and shall submit the monitoring reports described herein.

All samples shall be representative of the volume and nature of the discharge or matrix of material sampled. For analytical samples, the name of the sampler, time, date, location, bottle type, and any preservative used for each sample shall be recorded on the analytical sample chain-of-custody form. The chain-of-custody form must also contain all custody information including date, time, and to whom samples were relinquished.

Field test instruments (such as those used to test pH and electrical conductivity) may be used, provided that:

a. The user is trained in proper use and maintenance of the instruments.
b. The instruments are calibrated prior to monitoring events at the frequency recommended by the manufacturer.
c. Instruments are serviced and/or calibrated by the manufacturer at the recommended frequencies.
d. Calibration reports are maintained and available for at least three years.

Analyses shall be conducted using United States Environmental Protection Agency (USEPA) Standard Methods by a laboratory that has accreditation or certification for the analyses by the State Water Board Division of Drinking Water Environmental Laboratory Accreditation Program.

AGGREGATE WASTEWATER POND MONITORING

Aggregate wastewater ponds (e.g., settling ponds, excavation ponds, etc.) shall be monitored as specified in Table E-1.

Table E-1. Aggregate Wastewater Pond Monitoring

Constituent or parameter	Units [1]	Sample type	Sampling frequency [2]	Reporting frequency
Pond Status (list all ponds)	--	Observation	Quarterly	Annually
Freeboard	0.1 foot	Measurement	Quarterly	Annually
Berm Condition [3]	--	Observation	Quarterly	Annually
pH	std units	Grab	Quarterly	Annually
Electrical Conductivity [4]	µmho/cm	Grab	Quarterly	Annually
Fixed Dissolved Solids [5]	mg/L	Grab	Semi-annually	Annually
Total Mercury [5]	mg/L	Grab	Semi-annually	Annually
Coagulant/Flocculant	pounds	Measurement	Annually	Annually

1. µmho/cm denotes micromhos per centimeter, mg/L denotes milligrams per liter
2. Semi-annual samples shall be collected once every six months.
3. Berm condition evaluation: report presence or absence of burrowing animals, wave-caused erosion, or similar conditions.
4. Field measurement.
5. Filter samples with 0.45 micrometer (µm) filter at time of sample collection, or prior to preservation and lab digestion.

CONCRETE WASTEWATER POND MONITORING

Concrete wastewater pond systems shall be monitored as specified in Table E-2.

Table E-2. Concrete Wastewater Pond Monitoring

Constituent or parameter	Units [1]	Sample type	Sampling frequency [2]	Reporting frequency
Primary Settling Basin Status	--	Observation	Quarterly	Annually
Secondary Storage Pond Status (list all ponds)	--	Observation	Quarterly	Annually
Freeboard	0.1 foot	Measurement	Quarterly	Annually
Berm Condition [3]	--	Observation	Quarterly	Annually
Liner Condition [4]	--	Observation	When Possible	Annually
pH	std units	Grab	Quarterly	Annually
Electrical Conductivity	µmho/cm	Grab	Quarterly	Annually
Fixed Dissolved Solids	mg/L	Grab	Semi-annually	Annually
Chloride	mg/L	Grab	Semi-annually	Annually
Hexavalent Chromium	mg/L	Grab	Semi-annually	Annually

1. std units denotes standard units, µmho/cm denotes micromhos per centimeter, mg/L denotes milligrams per liter
2. Semi-annual samples shall be collected once every six months.
3. Berm condition evaluation: report presence or absence of burrowing animals, wave-caused erosion, or similar conditions.
4. Liner condition shall be evaluated when possible due to low water conditions or when performing maintenance activities (e.g., removing pond solids). Low permeability (clay) liners shall be inspected for evidence of burrowing animals or other damage, synthetic liners shall be inspected for signs of seam tears, punctures, or other damage, and concrete liners shall be inspected for evidence of cracking, settlement, or other damage. All inspections shall evaluate the condition of the liner for continued use and/or necessary repairs.

GROUNDWATER MONITORING AT CONCRETE FACILITIES

The Discharger shall monitor groundwater quality if the Concrete Secondary Storage Pond Evaluation (General Order Attachment A) requires groundwater monitoring. Consistent with the Business and Professions Code, groundwater monitoring reports, well construction workplans, etc. shall be prepared under the supervision of a California licensed civil engineer or geologist. Prior to construction of any groundwater monitoring wells or other groundwater characterization method, the Discharger shall submit plans and specifications to Regional Water Board staff for review and approval in accordance with Provision D.2.d of the General

Order. Once installed, all monitoring wells designated as part of the monitoring network shall be sampled and analyzed according to the schedule below.

Some Dischargers will elect to perform grab groundwater sampling as the method to characterize groundwater quality. That activity shall also be performed under the supervision of a California licensed civil engineer or geologist and shall be performed consistent with a Regional Water Board approved workplan.

Groundwater Monitoring Reports shall summarize all groundwater monitoring events that occurred in the calendar year. Analysis of the data and groundwater flow directions shall be performed at least annually and shall be performed under the supervision of a California licensed professional, as described above. The Discharger may request a reduced monitoring and reporting schedule once adequate data have been collected to characterize the site. Typically, two years of quarterly sampling are required for adequate characterization.

Prior to sampling, groundwater elevations shall be measured, and the wells purged of at least three well volumes or until pH and electrical conductivity measurements have stabilized. No-purge, low-flow, or other sampling techniques are acceptable if they are described in an approved Groundwater Sampling and Analysis Plan. Depth to groundwater shall be measured to the nearest 0.01 foot. Groundwater elevations shall be calculated. Samples shall be collected using approved USEPA methods. Groundwater monitoring shall be monitored as specified in Table E-3.

Table E-3. Groundwater Monitoring at Concrete Facilities

Constituent or parameter	Units [1]	Sample type	Sampling frequency	Reporting frequency
Depth to Groundwater	0.01 foot	Measurement	Quarterly	Annually
Groundwater Elevation [2]	0.01 foot	Calculated	Quarterly	Annually
Groundwater Gradient	feet/feet	Calculated	Quarterly	Annually
Groundwater Flow Direction	degrees	Calculated	Quarterly	Annually
pH [3]	std units	Grab	Quarterly	Annually
Total Dissolved Solids	mg/L	Grab	Quarterly	Annually
Chloride	mg/L	Grab	Quarterly	Annually
Hexavalent chromium [4]	mg/L	Grab	Quarterly	Annually

1. std units denotes standard units; mg/L denotes milligrams per liter
2. Groundwater elevations shall be based on depth to water using a surveyed measuring point elevation on the well and a surveyed reference elevation.
3. Field measurement.
4. Filter samples with 0.45 µm filter at time of sample collection, or prior to preservation and lab digestion.

REPORTING

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, location (e.g., groundwater well, aggregate wastewater pond, concrete wastewater primary settling basin, concrete wastewater secondary storage pond), and reported analytical or visual inspection results are readily discernible. The data shall be summarized to clearly illustrate compliance with the General Order and NOA as applicable. The results of any monitoring done more frequently than required at the locations specified in the MRP shall be reported in the next regularly scheduled monitoring report and shall be included in the calculations as appropriate.

The State Water Board and Regional Water Boards have transitioned to a paperless office system. Unless directed otherwise, Dischargers shall submit all reports in portable document format (PDF) to the appropriate Regional Water Board office via the email listed in Table E-4. The NOA will include additional instructions regarding the type of information the transmittal email should include when submitting reports via email.

Table E-4. Regional Water Board Email Addresses for Report Submittal

For Facilities located within:	Submit all reports to:
North Coast Regional Water Quality Control Board	northcoast@waterboards.ca.gov
San Francisco Bay Regional Water Quality Control Board	WDR.Monitoring@Waterboards.ca.gov
Central Coast Regional Water Quality Control Board	centralcoast@waterboards.ca.gov
Los Angeles Regional Water Quality Control Board	losangeles@waterboards.ca.gov
Central Valley Regional Water Quality Control Board – Redding	centralvalleyredding@waterboards.ca.gov
Central Valley Regional Water Quality Control Board – Rancho Cordova	centralvalleysacramento@ waterboards.ca.gov
Central Valley Regional Water Quality Control Board – Fresno	centralvalleyfresno@waterboards.ca.gov
Lahontan Regional Water Quality Control Board – South Lake Tahoe	lahontan@waterboards.ca.gov
Lahontan Regional Water Quality Control Board – Victorville	lahontan@waterboards.ca.gov
Colorado River Regional Water Quality Control Board	rb7-wdrs_paperless@waterboards.ca.gov
Santa Ana Regional Water Quality Control Board	santaana@waterboards.ca.gov
San Diego Regional Water Quality Control Board	rb9paperless@waterboards.ca.gov

In some regions, Dischargers will be directed to submit reports (both technical and monitoring reports) and analytical data to the State Water Board's GeoTracker database over the Internet. Information on the GeoTracker database is provided on the Internet at: <http://www.waterboards.ca.gov/ust/electronic_submittal/index.shtml>

A. Annual Report

All aggregate and concrete facilities are required to submit annual reports. Annual reports shall be submitted to the Regional Water Board by **March 1st following the monitoring year**. The Annual Report shall include the following:

1. Summaries of all monitoring data collected during the year.
    a. A description of all preparatory, monitoring, sampling, and analytical testing activities. The narrative shall be sufficiently detailed to verify compliance with the General Order, this MRP, and the NOA.
    b. If requested by staff, copies of laboratory analytical report(s) and chain of custody form(s).
2. A scaled map that shows (as applicable) facility structures, aggregate wastewater ponds, concrete wastewater primary settling basins and secondary storage ponds, storm water ponds, excavation areas, and storage areas (salable products, raw materials, waste solids [concrete windrows, stockpiles], recycled materials, etc.).
3. A discussion of compliance and corrective actions taken, as well as any planned or proposed actions needed to bring the discharge into compliance with the NOA and/or General Order.
4. Description of the types and amounts of coagulants or flocculants used during the year.
5. The pH data collected from all wastewater ponds during the year. If a pH value below 5.5 is recorded in an aggregate wastewater pond, the Discharger shall report the generation of acidic wastewater.
6. A discussion of any data gaps and/or potential deficiencies or redundancies in the monitoring system or reporting program.
7. Some Dischargers operating a concrete facility are required to monitor or characterize groundwater. The groundwater monitoring/characterization report shall be prepared by a California licensed professional. The report may be prepared separately from the rest of the Annual Report, but must be submitted with it.
    a. The report shall contain an analysis of groundwater data collected during the calendar year. The analysis shall include a description of the sample events, copies of the field logs, purge method and volume, groundwater elevation and trend, a groundwater elevation map for each sample event, summary tables showing results for parameters

measured, chain-of-custody forms, calibration logs for field equipment used, and a general evaluation of any impacts the discharge is having on groundwater quality.

b. Dischargers that operate secondary storage ponds that receive concrete wastewater and that are equipped with a low permeability liner are required to repeat groundwater sampling at five-year intervals. Report the data accordingly.

8. For aggregate facilities, a copy of the facility's current financial assurance cost estimate, financial assurance mechanism, and SMARA lead agency approval of the financial assurance.
9. The cover letter submitted with each monitoring report shall include the following information.
   a. Facility Name
   b. Waste Discharge Identification Number
   c. Date of Report
   d. Reporting Period (e.g., Annual Report for year 20XX)

A letter transmitting the monitoring reports shall accompany each report. The letter shall report violations found during the reporting period and actions taken or planned to correct the violations and to prevent future violations. The transmittal letter shall contain the following penalty of perjury statement and shall be signed by the Discharger or the Discharger's authorized agent:

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

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

Ordered by:

_____

NAME, Executive Officer

_____

DATE