

## ATTACHMENT A

### California Regional Water Quality Control Board San Francisco Bay Region

#### General Waste Discharge Requirements

### MONITORING AND REPORTING PROGRAM NO. R2-2016-0031 FOR CONFINED ANIMAL FACILITIES

This Monitoring and Reporting Program (MRP) is issued pursuant to Order No. R2-2016-0031 (Order) and California Water Code (CWC) section 13267. The Discharger shall not implement any changes to this MRP unless, and until, a revised MRP is approved by the Executive Officer.

To allow the Water Board to evaluate compliance with the terms and conditions of the Order, this MRP requires that regular monitoring, sampling, and record-keeping be conducted by confined animal facility (CAF) owners and operators (hereinafter, Dischargers). The required sampling and analyses are minimum parameters necessary to evaluate if CAF operations are contributing to adverse water quality impacts. If sampling data indicate that concentrations are above the benchmarks (based on the San Francisco Bay Basin Plan), then the Discharger must take immediate action to identify pollutant sources and correct the problem.

This MRP requires preparation of an Annual Report of compliance, to be submitted to the Water Board by November 30 of each year (Appendix 1). The Annual Report shall document required pre-rainy season preparations, individual monitoring data (if not participating in a watershed or group monitoring program), compliance schedule progress, an evaluation of water quality sampling data, an evaluation of the effectiveness of management practices, and records of any inspections where a water quality problem was identified, as well as the management practices taken to correct these problems.

#### I. DISCHARGER TIER REQUIREMENTS

The level of requirements for water quality testing and reporting for each Discharger is dependent on each Discharger's designated tier (as defined in Order No. R2-2016-0031, Finding 6). While all facilities must implement the provisions of this MRP, the tier-specific requirements are as follows:

##### A. Tier 1 Dischargers (CAFs without liquid waste retention ponds):

##### 1. Option to Participate in a Watershed or Group Monitoring Program

Dischargers may satisfy the individual surface water testing requirements by participating in a qualified watershed-based or group monitoring program that meets the standards set forth below. This program must be developed and administered by a professionally qualified third-party entity approved by the Executive Officer. The program's content, parameters, and sampling locations must provide substantially similar monitoring information (as outlined below) for each participant and must also be approved by the Executive Officer prior to implementation. The option to participate in a watershed-based or group monitoring program may be revoked if monitoring data and/or inspection findings indicate that a facility has an increased potential for adverse water quality impacts, thus requiring site-specific water quality monitoring.

## **2. Site Specific Monitoring**

Each facility is required to conduct individual visual inspections and grazing operation monitoring and reporting (for grazing lands of 50 acres or more), as specified below in sections II, A and B. Groundwater well testing is not required.

## **3. Reporting**

A Ranch Water Quality Plan must be completed within the schedule outlined in the Order. The plan is to be kept onsite and is not required to be submitted to the Water Board for approval. A letter certifying that the plan is complete must be submitted, by the Discharger or responsible professional who helped prepare the plan, either separately or attached to the facility's Annual Report. A copy of the plan must be made available for review by Water Board staff during inspections.

### **B. Tier 2 Dischargers (CAFs with liquid waste retention ponds):**

#### **1. Option to Participate in a Watershed Monitoring Program**

Dischargers may satisfy the individual surface water testing requirements by participating in a qualified watershed-based or group monitoring program that meets the standards set forth below. This program must be developed and administered by a professionally qualified third-party entity approved by the Executive Officer. The program's content, parameters, and sampling locations must provide substantially similar monitoring information (as outlined below) for each participant and must also be approved by the Executive Officer prior to implementation. The option to participate in a watershed-based or group monitoring program may be revoked if monitoring data and/or inspection findings indicate that a facility has an increased potential for adverse water quality impacts, thus requiring site-specific water quality monitoring.

#### **2. Site Specific Monitoring**

Each facility is required to conduct individual visual inspections, grazing operation monitoring and reporting (for grazing lands of 50 acres or more) and groundwater well testing, as specified below in sections II A, B (as applicable), and C.

#### **3. Reporting**

- a. Management plans must be updated or completed within the schedule outlined in the Order but are not required to be submitted for approval. A letter certifying that each plan is complete must be submitted by the Discharger (if prepared through a technical education program) or responsible professional who helped prepare the plan, either separately or attached to the facility's Annual Report. Copies of each management plan must be made available for review by Water Board staff during inspections.
- b. Site-specific water quality monitoring results (i.e., groundwater monitoring) are required to be submitted in the Annual Report. If participating in a watershed-based monitoring program, all other results will be submitted in a group monitoring report.

**C. Tier 3 Dischargers (Designated by the Executive Officer due to threat to water quality):**

**1. Individual Monitoring Program Required**

Dischargers within Tier 3 must implement a site-specific water quality monitoring program that includes all elements described below. Tier 3 CAFs that utilize waste retention ponds to store and manage operational waste are subject to groundwater monitoring requirements outlined in C.2., below.

**2. Reporting**

- a. Management plans must be developed by a qualified professional and completed within the accelerated schedule outlined in the Order. Plans must be submitted to the Executive Officer for review and approval. Additionally, copies of each management plan must be kept on-site and made available for review by Water Board staff during inspections.
- b. Dischargers must include a schedule for improvements and updates within each Annual Report.
- c. Dischargers must include all individual water quality monitoring data within each Annual Report.

**II. MONITORING PROVISIONS**

Visual inspections and sampling of surface and ground waters are required to assess compliance with conditions of this Order.

**A. Visual Inspections**

This MRP requires all Dischargers to conduct periodic visual inspections to ensure the CAF is operated and maintained in compliance with the Order. Visual inspections shall be done when conditions are safe to do so. Observations of any threats to water quality and corrective actions taken shall be documented and submitted in each Annual Report. All adverse conditions, including discharges that are a threat to human health or the environment, shall be reported to the Water Board within 24 hours. Corrective actions shall be implemented to stop the discharge as soon as possible.

**1. Production / Confined Areas**

The Discharger shall conduct **daily** inspections of the production / confined areas (including all retention ponds, pumping equipment, water lines, outdoor animal wash racks, corrals, and nearby surface waters,) and document any non-storm water waste discharges from the property under the control of the Discharger.

**2. Retention Pond Freeboard and Integrity (if applicable)**

The Discharger(s) shall measure and document the freeboard in each retention pond **weekly**, during the rainy season (October through March), and **monthly** during the dry season (April through September). Freeboard is the vertical distance from the pond surface to the lowest elevation of the surrounding berm or the bottom of the spillway. The size of ponds/containment structures needed to contain waste materials and rain water from a 25-year 24-hour storm event will vary from facility to facility. To maintain structural integrity

and prevent a discharge, **two (2) feet of freeboard shall be maintained in partially or completely above ground ponds and one (1) foot of freeboard shall be maintained in pond structures that are completely in ground.** Lesser freeboard may be approved by the Executive Officer if documented by a registered civil engineer that structural integrity and required capacity will not be compromised with the proposed freeboard.

The Discharger shall conduct weekly inspections of the manure containment structures for effective capacity, berm integrity, cracking, slumping, excess vegetation, animal burrows, and/or seepage. Repairs shall be made to prevent discharges to surface water and/or groundwater, and noted in the Annual Report.

**3. Cropland and/or Pasture (if applicable)**

The Discharger(s) shall inspect any cropland on which solid manure or wastewater is applied. Inspections shall occur **at least once daily during each irrigation event and/or spreading event**, and shall be documented. Any erosion, conditions of field saturation, runoff from the cropland containing pollutants, or violation of set-back requirements shall be remedied as necessary to protect water quality and prevent nuisance conditions. The following shall be documented:

- a. Descriptions of erosion, field saturation, runoff, set-back violation, or the presence of nuisance conditions in the cropland;
- b. Dates, location, and approximate volume of wastewater and/or solid waste applied to land, in accordance to the Nutrient Management Plan;
- c. Weather conditions at the time of and 24 hours prior to and following waste application; and
- d. Dates, occurrences, location, and estimated amounts of unauthorized releases from the ponds or cropland either off-property or to surface water drainage courses (such releases shall be reported in accordance with the reporting requirements below).

**4. Storm Event Preparations**

The following inspections shall be conducted prior to anticipated storm events, during extended storm events, and after actual storm events.

- a. Inspect all retention ponds / structures. These structures shall be inspected for berm integrity, cracking, slumping, excess vegetation, burrowing animals, and seepage.
- b. Inspect the closest receiving water, upstream and downstream of all facilities, to monitor any change in water quality resulting from facility operations. Any change in water quality shall be reported in accordance with the reporting requirements below.
- c. Inspect confined areas to ensure that all pollution prevention measures, as specified in the facility's Waste Management Plan or Ranch Water Quality Plan, are implemented and effective.

The Discharger shall document any discharges of stormwater that has commingled with wastewater, litter, or manure, and the approximate duration and amount of wastes discharged to surface waters. Such discharges shall be reported in accordance with non-compliance reporting requirements below.

**B. Grazing Operation Monitoring and Reporting (required for grazing lands of 50 acres or more)**

1. The Discharger shall conduct visual inspections of the grazing lands to verify that chosen management practices are being implemented and that the Waste Discharge Specifications for grazing operations are being met.
2. The Discharger shall, in addition to inspecting the grazing lands, visually inspect the closest receiving water, upstream and downstream of the grazing facility, to monitor any change in water quality resulting from facility operations. These inspections are needed to determine the effectiveness of the management practices implemented at the grazing facility.
3. Inspections shall occur twice during the dry season and at least monthly during the rainy season, preferably before and after a forecasted storm event. One of the dry season inspections shall be conducted in the month of September, prior to the beginning of the rainy season, and shall encompass the entire ranch facility to ensure the facility's readiness for the rainy season. A Discharger is not required to perform inspections during dangerous weather conditions or when a storm begins after scheduled facility operating hours.
4. Pre-storm inspections of the entire grazing facility shall ensure that appropriate management practices are properly installed and maintained; post-storm inspections are to evaluate whether management practices have functioned adequately and whether additional measures or maintenance work is needed.
5. The Discharger shall annually measure and record measurements of residual dry matter (RDM<sup>1</sup>), prior to fall rains, as specified in the University of California 2002, California Guidelines for Residual Dry Matter Management on Coastal and Foothill Annual Rangelands, Rangeland Monitoring Series Publication 8092. These measurements shall be included in the Annual Report. If minimum RDM standards (included in the guidelines) are not met, the Discharger shall provide an explanation for not meeting the recommendations in the Annual Report.
6. The Discharger shall maintain records of inspections, monitoring observations, and any response taken to eliminate potential sources of sediment, nutrients, and pathogens from the grazing facility. If a water quality problem is found during the inspection, the Discharger shall record the nature of the problem, and the management practices taken to correct it, and report it in the Annual Report.

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<sup>1</sup> As cited in Napa River Sediment TMDL and Sonoma Creek Sediment TMDL.

### **C. Water Quality Testing**

Water quality sampling and reporting is required to allow the Water Board to assess compliance with Basin Plan water quality objectives and to assess the effectiveness of facility management plans. Sampling results shall be used by the Discharger to assess water quality conditions and to make informed decisions regarding management practices. Short-term groundwater well sampling is required in order to assess whether the current management measure and design criteria are protective of groundwater quality. If the initial monitoring results are indicative of adverse water quality impacts, then management measures (specified by the management plans) must be redesigned accordingly and additional monitoring may be required.

#### **1. Surface Water Sampling**

Surface watercourses that flow through the facility, including the production area, cropland, or pastures, must be sampled using grab samples at the point where the watercourse leaves the lands used for the CAF operation. If multiple watercourses flow through the property, the Discharger may submit a written request to the Executive Officer asking for reduced representative sampling locations.

Alternatively, if surface waters flow adjacent to the CAF operation lands but not through it, and are located such that they could be impacted by the operation, the grab samples shall be collected downstream of the areas closest to the property, assuring legal access for Discharger or third party sampling. In the event downstream, representative grab samples show exceedances above benchmark values, the Discharger, or representative third party sampling group representative, will collect additional grab surface water samples upstream, or at other representative locations, to bracket and isolate the problem so that the Discharger can take corrective action.

Sampling shall take place during or directly following each of three major storm events after at least 1 inch of rain per 24 hours. Sampling will occur in the winter rainy season, which generally begins in October and ends in March, with the first samples to be collected starting 1 year after submitting a Notice of Intent. Sampling events shall be at least 14 days apart. Sampling shall be done when conditions are safe to do so. Visual observations, such as changes in surface water color or turbidity, must be recorded at the time of surface water sampling and reported in or submitted with the Annual Report.

##### **a. Sampling Parameters:**

Temperature, pH, and specific conductance shall be measured on-site with a handheld data sonde or comparable field equipment. Total ammonia nitrogen shall be measured either with a field test kit (colorimetric field kits are acceptable) or by a certified laboratory. These laboratory analyses shall be conducted in accordance with the Title 40 Code of Federal Regulations Part 136 (Guidelines Establishing Test Procedures for the Analysis of Pollutants) or other test methods approved by the Executive Officer. One (1) sample to be tested for total ammonia nitrogen, pH, specific conductance, and temperature shall be collected at each location. Data collection for pH, specific conductance, and temperature parameters must comply with the Surface Water Ambient Monitoring Program Quality Assurance Program Plan (QAPrP) at [http://www.waterboards.ca.gov/water\\_issues/programs/swamp/tools.shtml](http://www.waterboards.ca.gov/water_issues/programs/swamp/tools.shtml).

**b. Constituents and Benchmarks:**

<b>Constituents</b>	<b>Units</b>	<b>Benchmarks</b>
Specific conductance	µS/cm	Below 2000
Total ammonia nitrogen (NH <sub>3</sub> + NH <sub>4</sub> <sup>+</sup> )	mg/L	Below 1 mg/l and meets calculated unionized ammonia benchmark below
Unionized ammonia (NH <sub>3</sub> ) as calculated <sup>1</sup>	mg/l	0.025 mg/l
pH		6.5-8.5
Temperature	°C	none

**2. Groundwater Well Sampling (CAFs with liquid waste retention ponds)**

**a. Sampling Parameters:**

Any existing representative wells located at the confined animal facility, including domestic and agricultural supply wells, shall be sampled four (4) times total, approximately six (6) months apart. A sample must be collected in: (1) Fall 2017, (2) Spring 2018, (3) Fall 2018, and (4) Spring 2019. Results of groundwater samples collected consistently with the sampling protocols and within these time frames for another purpose (e.g., for a county health department or by the county milk inspector) may be submitted to the Executive Officer instead of collecting additional samples. The sample must be representative of groundwater well conditions (i.e., not disinfected).

Groundwater samples from domestic wells shall be collected from the tap before the pressure tank and after water has been pumped from this tap for 10 to 20 minutes. If the sample cannot be collected prior to a pressure tank, the well must be purged at least twice the volume of the pressure tank. Groundwater samples from agricultural supply wells shall be collected after the pump has run for a minimum of 30 minutes or after at least three well volumes have been purged from the well. Alternatives to this protocol may be approved by the Executive Officer. Groundwater samples shall be analyzed by a laboratory certified by the State Department of Health Services or a laboratory pre-approved by the Water Board staff.

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<sup>1</sup> The toxicity level of unionized ammonia is directly affected by pH and temperature. The higher the pH and temperature of the water, the higher the proportion of total ammonia that exists in toxic form. The Central Valley Regional Water Board has developed clear procedures for using Total Ammonia field test kits and for using field sampling results to calculate unionized ammonia values. This guidance can be found at:  
[http://www.waterboards.ca.gov/centralvalley/water\\_issues/dairies/general\\_order\\_guidance/sampling\\_analysis/field\\_analysis\\_final\\_rpt.pdf](http://www.waterboards.ca.gov/centralvalley/water_issues/dairies/general_order_guidance/sampling_analysis/field_analysis_final_rpt.pdf)

**b. Constituents and Benchmarks:**

One (1) sample from each well shall be tested for the following parameters:

Constituents	Units	Benchmarks (municipal supply)
Nitrate <sup>2</sup>	mg/l	Nitrate (NO <sup>3</sup> ) = 45.0 mg/l or Nitrogen (N) = 10 mg/l
Total Coliform Bacteria	MPN/100ml	1.1 MPN/100ml <sup>3</sup>

**3. Sampling Protocol**

- a. The Discharger shall use clean sample containers and sample handling, storage, and preservation methods that are accepted or recommended by the selected analytical laboratory or, as appropriate, in accordance with approved United States Environmental Protection Agency analytical methods.
- b. All samples collected shall be representative of the volume and nature of the material being sampled.
- c. All sample containers shall be labeled and records maintained to show the time and date of collection as well as the person collecting the sample and the sample location.
- d. All samples collected for laboratory analyses shall be preserved and submitted to the laboratory within the required holding time appropriate for the analytical method used and the constituents analyzed.
- e. All samples submitted to a laboratory for analyses shall be identified in a properly completed and signed Chain of Custody form.
- f. Field test instruments used for electrical conductivity, pH, temperature, and total ammonia nitrogen, may be used, provided:
  - The operator is trained in the proper use and maintenance of the instruments;
  - The instruments are field calibrated prior to each monitoring event; and
  - Instruments are serviced and/or calibrated by the manufacturer at the recommended frequency.
- g. Alternative sampling protocols may be proposed and shall be approved by the Executive Officer.

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<sup>2</sup> Nitrate may be analyzed and reported as either Nitrate as NO<sup>3</sup> or Nitrate as N.

<sup>3</sup> In groundwater with a beneficial use of municipal and domestic supply, the median of the most probable number of coliform organisms over any seven-day period shall be less than 1.1 most probable number per 100 milliliters (MPN/100 mL) (based on multiple tube fermentation technique; equivalent test results based on other analytical techniques as specified in the National Primary Drinking Water Regulation, 40 CFR, Part 141.21 (f), revised June 10, 1992, are acceptable).

#### 4. **Request for Sampling Reduction**

Dischargers in Tier 1 or 2 that conduct individual facility surface water quality sampling may request a reduction in the sample frequency and/or number of locations sampled. In order to be eligible for a sampling reduction each facility must submit a Sampling and Analysis Reduction Certification (Appendix 2) to the Water Board documenting the following:

- a. Results from at least 6 consecutive sampling events at or below benchmarks, and
- b. The Discharger is in full compliance with the requirements of this Order and has updated, certified and submitted all documents, data, and reports required by this Order during the time period in which samples were collected.

### III. **REPORTING PROVISIONS**

#### A. **Documentation and Annual Reporting**

The objective of the Annual Report (MRP Appendix 1) is to provide the Water Board updates (using photographs and narrative text) on new management practices and the effectiveness of existing management practices to control pathogen and nutrient sources at the CAF. Documentation of compliance with conditions of the Order must be submitted to the Water Board in an Annual Report due each **November 30**. The annual reporting period is November 1 through October 31. Water Board staff will review the Annual Report and provide comments if necessary for the facility to meet the Order requirements. If the Water Board provides comments on the Annual Report or any technical report, the Discharger will be required to address those comments. A copy of the Annual Report including photo documentation must be kept at the facility for Water Board review during inspections. The contents of the Annual Report shall include:

1. Photos shall be taken each year **by October 31** and submitted to the Water Board to confirm that:
  - a. The liners of the retention ponds are protective of water quality (free of weeds and cracks that may disturb the liner); and
  - b. The retention ponds have sufficient storage capacity prior to the rainy season.
2. Photos of other pollution prevention measures to protect surface and groundwater must also be submitted with the Annual Report. Examples of pollution prevention measures include:
  - a. Cleaning up of pollutants from areas where storm water runoff occurs,
  - b. Covering of manure, compost, and feed storage areas,
  - c. Installing impermeable ground covering in manure storage areas,
  - d. Protecting watercourses from erosion and wastes, and
  - e. Any other best management practices or control measures for water quality protection.

Photos of permanent and/or structural pollution prevention measures only need to be submitted once, as long as the measures remain operational and effective.

3. A narrative summary of measures taken to protect surface and groundwater and to meet conditions of the Order. Where appropriate, sketches of pollution prevention measures implemented since the previous Annual Report may also be submitted.
4. A status report for any improvement schedules implemented, as required by the Ranch Water Quality Plan (WDRs Attachment B) or Waste Management Plan (WDRs Attachment C).
5. Analytical results of surface water and groundwater samples (if required). ). If participating in a watershed or group monitoring effort pre-approved by the Executive Officer, surface water sampling results can be included in the group monitoring report. If results of groundwater samples collected for another purpose are submitted to meet these MRP requirements, an explanation is required in the Annual Report.

If sample results exceed Basin Plan water quality objectives or other public health standards, the Discharger shall note the noncompliance in the Annual Report and describe any corrective measures that were taken and/or needed. The Executive Officer may require additional corrective actions and additional monitoring.

## B. Noncompliance Reporting

The Discharger shall report any spill, discharge, or other type of noncompliance that violates the conditions of this Order and/or endangers human health or the environment within 24 hours of becoming aware of its occurrence. The incident shall be reported to the **Water Board Spill Hotline (510) 622-2369 and to the California Office of Emergency Services (OES) (800) 852-7550**. During non-business hours, the Discharger shall leave a message on the Water Board's office voice mail. OES is operational 24 hours a day. The message shall include the time, date, place, and description of the discharge.

A written Noncompliance Report shall be submitted to the Water Board office within fourteen (14) business days of the Discharger becoming aware of the incident. The report shall include complete details of the steps that the Discharger has taken, or intends to take, in order to prevent recurrence. The written submission shall, at a minimum, contain:

1. The approximate date, time, and location of the discharge;
2. A description of the noncompliance and its cause;
3. The flow rate, volume, and duration of the discharge;
4. Whether the noncompliance has been corrected and/or the actual or anticipated time for achieving compliance; and
5. A time schedule and a plan to implement necessary corrective actions to prevent the recurrence of such discharges.

The Discharger shall notify the Water Board by letter when it returns to compliance with the time schedule. Violations may result in enforcement action, including Water Board or court orders requiring corrective action or imposing civil monetary liability, or in terminating the applicability of this Order to a specific facility or discharger.

If during the performance of Discharger and/or Water Board staff inspections, deficiencies, defects, and/or impending failures are observed in any of the manure-contacted water conveyance, control, and/or retention structures, the Discharger shall take immediate action to correct and/or prevent any unauthorized release. The corrective action(s) must be documented and these records attached to the Noncompliance Report.

### **C. Record-Keeping**

The Discharger shall create, maintain for five years, and make available to the Water Board during inspections and upon request by the Water Board, any reports or records required by the Order including those required under this MRP.

### **D. Signature and Submittal**

Each Annual Report and Noncompliance Report shall be signed by the Discharger or a duly authorized representative and shall contain the following statement:

*“I certify under penalty of law that I have personally examined and am familiar with the information submitted in this report 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.”*

Reports shall be submitted to:

California Regional Water Quality Control Board  
San Francisco Bay Region  
1515 Clay Street, Suite 1400  
Oakland, CA 94612  
Attention: Confined Animal Facility Program

Or email to: [R2ConfinedAnimals@waterboards.ca.gov](mailto:R2ConfinedAnimals@waterboards.ca.gov)

### **E. Extension Request**

The Discharger may request an extension to MRP deadlines by written request to the Executive Officer at least 30 days prior to the deadlines. This request must include a description of incomplete plan elements, an alternative date of compliance, and assurance of water quality protection in the interim. A letter from the Executive Officer will be issued granting or denying the request. A staff inspection may be necessary.

## **APPENDIX**

1. Annual Report
2. Sampling and Analysis Reduction Certification

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