

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION**

**DRAFT
MONITORING AND REPORTING PROGRAM
ORDER NO. R3-2011-0006**

FOR DISCHARGERS ENROLLED UNDER THE

**CONDITIONAL WAIVER OF WASTE DISCHARGE REQUIREMENTS
FOR
DISCHARGES FROM IRRIGATED LANDS**

This Monitoring and Reporting Program Order (MRP) is issued pursuant to California Water Code (Water Code) section 13267 and 13269, which authorize the California Regional Water Quality Control Board, Central Coast Region (hereafter Central Coast Water Board) to require preparation and submittal of technical and monitoring reports. Water Code section 13269 requires a waiver of waste discharge requirements to include as a condition the performance of monitoring and the public availability of monitoring results.

This MRP sets forth monitoring and reporting requirements for Dischargers enrolled under the Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands Order No. R3-2011-0006 (Order). Pursuant to Water Code section 13269(a)(2), monitoring requirements must be designed to support the development and implementation of the waiver program, including, but not limited to, verifying the adequacy and effectiveness of the waiver's conditions. The monitoring and reports required by this MRP are needed to evaluate impacts of discharges of waste from irrigated agricultural operations to waters of the state and to determine compliance with the Order. Order No. R3-2011-0006 and Attachment A provide evidence supporting requiring discharges subject to the Order to comply with this MRP.

Dischargers and third party organizations conducting water quality monitoring per the Order and MRP must comply with the Order and MRP. All monitoring data must include accurate location data. All monitoring and location data must be submitted to the Regional Board, in a format specified by the Executive Officer, and shall be made public.

MONITORING AND REPORTING BASED ON TIERS

Order No. R3-2011-0006 establishes three tiers of discharges based on the potential for impacts on water quality. Pursuant to Order No. R3-2011-0006, Dischargers must comply with the conditions of the Order for the tier that applies to their land and/or

their operations. The lowest tier, Tier 1, applies to dischargers who discharge the lowest level of waste or pose the least threat to water quality relative to the other tiers. The highest tier, Tier 3, applies to dischargers who discharge the highest level of waste or pose the greatest threat to water quality relative to the other tiers. Tier 2 applies to dischargers whose discharge has a moderate threat to water quality. Water quality is defined in terms of Regional, State, or Federal numeric or narrative water quality standards.

Tier 3 Dischargers may submit a request to the Executive Officer to approve transfer to Tier 2, qualified with evidence to demonstrate no non-stormwater discharge or data to demonstrate that any surface water or groundwater discharges are not causing or contributing to pollution. The Executive Officer may elevate a Discharger to a higher Tier if the Discharger poses an increased threat of discharging waste that may cause or contribute to pollution, or if the Discharger has a history of non-compliance.

Consistent with the Order, this MRP identifies specific monitoring and reporting requirements for Tier 1, Tier 2 and Tier 3 Dischargers.

SUMMARY OF MONITORING AND REPORTING REQUIREMENTS

Monitoring and Reporting Requirements for All Dischargers (Tier 1, Tier 2 and Tier 3):

1. Receiving Water Quality Monitoring and Reporting;
2. Groundwater Sampling and Reporting;

Additional Monitoring and Reporting Requirements for Tier 2 and Tier 3 Dischargers:

3. Annual Compliance Document;
4. Total Nitrogen Applied (*required for subset of Tier 2 and Tier Dischargers if discharge has High Nitrate Loading Risk*);
5. Photo Monitoring (*required for subset of Tier 2 and Tier 3 Dischargers that have operations that contain or are adjacent to waterbody impaired for temperature, turbidity or sediment*);

Additional Monitoring and Reporting Requirements for Tier 3 Dischargers:

6. Individual Discharge Monitoring and Reporting;
7. Irrigation and Nutrient Management Plan Verification Reporting (*required for subset of Tier 3 Dischargers if discharge has High Nitrate Loading Risk*);
8. Water Quality Buffer Plan (*required for subset of Tier 3 Dischargers that have operations that contain or are adjacent to waterbody impaired for temperature, turbidity or sediment*);

PART I. MONITORING REQUIREMENTS FOR ALL DISCHARGERS

Monitoring requirements identified in Part I.A. and Part I.B. apply to all Dischargers (Tier 1, Tier 2, and Tier 3) unless otherwise indicated.

A. Receiving Water Quality Monitoring

1. Dischargers must conduct receiving water quality monitoring to a) assess the impacts of waste discharges from irrigated lands to receiving water, b) assess the status of receiving water quality and beneficial use protection in agricultural watersheds, c) evaluate short term patterns and long term trends in receiving water quality, d) evaluate water quality impacts resulting from agricultural discharges, including from tile drains e) evaluate stormwater quality, f) evaluate degradation of existing perennial, intermittent, or ephemeral streams or riparian or wetland area habitat resulting from erosion or agricultural discharges, and g) assist in the identification of specific sources of water quality problems.
2. Dischargers must elect a monitoring option (cooperative monitoring program or individual monitoring) to comply with receiving water quality monitoring requirements.
3. Dischargers are encouraged to choose participation in a cooperative monitoring program (e.g. the existing Cooperative Monitoring Program or a similar program) to comply with receiving water quality monitoring requirements. Dischargers not participating in a cooperative monitoring program must conduct receiving water quality monitoring individually that achieves the same purpose.
4. **Within three months** of adoption of the Order or enrollment, Dischargers (individually or as part of a cooperative monitoring program) must submit an MRP Plan and Quality Assurance Project Plan (QAPP).
5. Dischargers must develop the MRP Plan to describe how the proposed monitoring will achieve the objectives of the MRP and evaluate compliance with the Order. The Executive Officer must approve the MRP Plan and QAPP.
6. Dischargers must develop the QAPP to include receiving water and site-specific information, project organization and responsibilities, and quality assurance components of the MRP. The QAPP must also include the laboratory and field requirements to be used for analyses and data evaluation. All sampling and laboratory methodologies must be consistent

with the State Water Board's Surface Water Ambient Monitoring Program (SWAMP) and the Central Coast Water Board's Central Coast Ambient Monitoring Program (CCAMP). The Central Coast Water Board may conduct an audit of the Dischargers' contracted laboratories at any time in order to evaluate compliance with the QAPP. Quality control requirements are applicable to all the constituents sampled as part of the MRP, as described in the appropriate method.

7. The MRP Plan and any proposed revisions are subject to approval by the Executive Officer. The Executive Officer may also revise the MRP Plan, including adding, removing, or changing monitoring site locations, changing monitoring parameters, and other changes as necessary to better assess the impacts of waste discharges from irrigated lands to receiving water.

Receiving Water Quality Monitoring Sites

8. The MRP Plan must, at a minimum, include monitoring sites to evaluate waterbodies identified in Table 1. The MRP Plan must include sites to evaluate receiving water quality impacts resulting from agricultural discharges (including areas receiving tile drain discharges). Site selection should take into consideration the existence of any long term monitoring sites included in related monitoring programs (e.g. CCAMP). Sites may be added or modified, subject to prior approval by the Executive Officer, to better assess the pollutant loading from individual sources or the impacts to receiving waters. Any modifications must consider sampling consistency for trend detection.

Receiving Water Quality Monitoring Parameters

9. The MRP Plan must, at a minimum, include the following types of monitoring and evaluation parameters listed below and identified in Table 2:
 - a. Flow Monitoring;
 - b. Water Quality (physical parameters, bacteria, metals, nutrients, pesticides);
 - c. Toxicity (water and sediment);
 - d. Assessment of Benthic Invertebrates;
9. Laboratory analyses must be conducted by a State certified laboratory according to USEPA approved methods;
10. Water quality and flow monitoring is used to assess the sources, concentrations, and loads of waste discharges from irrigated lands to surface waters, to evaluate impacts to water quality and beneficial uses,

and to evaluate the short term patterns and long term trends in receiving water quality. Monitoring data shall be compared to existing numeric and narrative water quality objectives.

11. Toxicity testing is to evaluate water quality relative to the narrative toxicity objective.
12. Water column toxicity analyses shall be conducted on 100% (undiluted) sample. At sites where persistent unresolved toxicity is found, the Executive Officer may require a Toxicity Identification Evaluation (TIE) to identify the cause of the toxicity. At these sites, sufficient sample volume shall be collected to allow the laboratory to conduct a TIE on the same sample, should toxicity be detected.

Receiving Water Quality Monitoring Frequency and Schedule

13. The MRP Plan must include a schedule for sampling. Timing, duration, and frequency of sampling should be based on the land use, complexity, hydrology, and size of the waterbody. For cost-effectiveness and efficiency, different sites may be sampled at varying frequency.
14. At a minimum, the MRP Plan schedule must include two major storm events during the wet season (October – March) and monthly sampling of common agricultural parameters in major agricultural areas. Storm event sampling should be conducted within 18 hours of storm events, preferably including the first run-off event that results in significant increase in stream flow. Agricultural parameters that are less common may be monitored less frequently. Table 2 includes minimum sampling frequency. Modifications to the receiving water quality monitoring parameters, frequency, and schedule may be submitted for Executive Officer consideration and approval.
15. **Within six months** of adoption of the Order or enrollment, all Dischargers must initiate receiving water quality monitoring per the MRP Plan and QAPP approved by the Executive Officer.

B. Groundwater Sampling

1. **Within one year** of adoption of the Order or enrollment, Dischargers must sample private domestic drinking water and agricultural groundwater wells on their operations to evaluate groundwater conditions in agricultural areas, identify areas at greatest risk for nitrogen loading and exceedance of drinking water standards, and identify priority areas for follow up actions.

2. Dischargers must sample at least one groundwater well for each farm/ranch on their operation. For farms/ranches with multiple groundwater wells, Dischargers must sample the primary irrigation well and all wells that are used or may be used for drinking water purposes.
3. Tier 1 and Tier 2 Dischargers must conduct a sampling round of groundwater wells twice a year during spring (March/April) and fall (September/October). The first round of sampling must be completed by October 2012. Sampling must be repeated every 5 years.
4. Tier 1 and Tier 2 Dischargers who have existing groundwater quality data that meet the following criteria may submit existing data as an alternative to the above groundwater sampling requirements: a) at least one groundwater well for an individual farm/ranch, b) a minimum of two samples collected for each well within the last five years, and c) samples analyzed for nitrate using USEPA approved analytical methods.
5. Tier 1 and Tier 2 Dischargers in an area where regional or local groundwater quality monitoring conducted within the last 5 years documents that regional or local groundwater quality does not exceed drinking water standards may submit reference of the regional or local groundwater quality monitoring report, as a proposed alternative to the above sampling requirements. The Executive Officer will determine if the proposal is acceptable.
6. Tier 3 Dischargers must conduct quarterly groundwater sampling of groundwater wells for the first year, and annually thereafter. The annual sampling must be conducted during the quarter when nitrate concentration was at its maximum, based on quarterly groundwater sampling.
7. Groundwater samples must be collected by a State registered professional engineer, professional geologist, or third-party approved by the Executive Officer using proper sampling methods, chain-of-custody, and quality assurance/quality control protocols. Groundwater samples should be collected at or near the well head before the pressure tank. In cases where this is not possible, the water sample should be collected from a sampling point as close to the pressure tank as possible, or from a cold-water spigot located before any filters or water treatment systems. Groundwater sampling parameters must include depth to groundwater, well screen interval depths (if available), general chemical parameters, and general cations and anions listed in Table 3.
8. Laboratory analyses for groundwater samples must be conducted by a State certified laboratory according to USEPA approved methods;

PART II. ADDITIONAL MONITORING REQUIREMENTS FOR TIER 2 AND TIER 3 DISCHARGERS

A. Photo Monitoring

1. **Within one year** of the adoption of the Order or enrollment, Tier 2 and Tier 3 Dischargers that have operations that contain or are adjacent to a waterbody *impaired for temperature, turbidity or sediment* must conduct photo monitoring to document the condition of perennial, intermittent or ephemeral streams (wet or dry), riparian or wetland area habitat, and associated management practices implemented to prevent waste discharge and protect water quality in these areas to comply with this Order and the following Basin Plan requirement:

Basin Plan (Chapter 5, p. V-13, Section V.G.4 – Erosion and Sedimentation, *“A filter strip of appropriate width, and consisting of undisturbed soil and riparian vegetation or its equivalent, shall be maintained, wherever possible, between significant land disturbance activities and watercourses, lakes, bays, estuaries, marshes, and other water bodies.*

2. Dischargers must conduct photo monitoring consistent with protocol established by the Executive Officer. Dischargers must include a point of reference in the photo. Photos shall be accompanied by explanations and descriptions of the management practices demonstrated in the photos and shall include estimated widths of buffer areas from top of bank.
3. Photo monitoring must be repeated every four years.

PART III. ADDITIONAL MONITORING REQUIREMENTS FOR TIER 3 DISCHARGERS

A. Individual Discharge Monitoring

1. **Within four months** of adoption of the Order or enrollment, Tier 3 Dischargers must submit an MRP Plan and QAPP to monitor individual discharges, including irrigation run-off, including tailwater discharges and discharges from tile drains, tailwater ponds and other surface water containment features (unless constructed with impermeable liner), and stormwater discharges. The MRP Plan and QAPP must be submitted to the Executive Officer.

2. **Within six months** of the adoption of the Order or enrollment, Tier 3 Dischargers must begin implementing the MRP Plan to conduct individual discharge monitoring, unless otherwise directed by the Executive Officer. The purpose of individual discharge monitoring is to a) evaluate the quality of individual waste discharges, including concentration and load of waste for appropriate parameters, b) evaluate compliance with the Order, including existing narrative and numeric water quality objectives, c) evaluate impacts of waste discharge to water quality and beneficial uses, and d) evaluate progress towards compliance with water quality improvement milestones in the Order.
3. The Executive Officer may require modifications to the MRP Plan or Tier 3 Dischargers may propose MRP Plan modifications for Executive Officer approval, when modifications are justified to accomplish the objectives of the MRP.
4. The MRP plan must include a) number and location of discharge points monitored, b) sample collection methods, c) monitoring parameters, and c) frequency of monitoring.
5. The QAPP must describe appropriate methods for sampling, measurement and analysis, data collection or generation, data handling, quality control activities, and documentation.
6. Tier 3 Dischargers must select monitoring points to characterize a representative sample of at least 80% of the estimated irrigation run-off discharge volume from each farm/ranch, including tailwater discharges and discharges to tile drains. Tier 3 Dischargers must include at least one monitoring point from each farm/ranch which drains areas where chlorpyrifos or diazinon are applied, and monitoring of runoff or tailwater must be conducted within one week of chemical application.
7. Tier 3 Dischargers must also monitor tailwater ponds and other surface water containment features.
8. Tier 3 Dischargers must conduct monitoring for monitoring parameters and according to the frequency described in Tables 4A and 4B. Dischargers may utilize EPA approved "quick test strip" methods, if such methods allow for the comparison against relevant water quality standards and the Discharger follows appropriate sampling methodology and quality assurance protocols to ensure accuracy of the test.

9. **Within five years** from adoption of the Order or enrollment, Tier 3 Dischargers with High Nitrate Loading Risk to groundwater, as defined by Order R3-2011-0006, must conduct monitoring to verify the overall effectiveness of the Irrigation and Nutrient Management Plan in protecting groundwater quality and achieving water quality standards for nitrate. Such monitoring must evaluate measured progress towards protecting, preserving, and restoring groundwater quality in the upper-most aquifer, including reductions in loading based on reduced fertilizer use and improved irrigation and nutrient management practices. Monitoring methods used may include, but are not limited to lysimeter monitoring, shallow groundwater or soil monitoring, groundwater well monitoring, and/or contaminant transport and flow modeling.

PART IV. REPORTING REQUIREMENTS FOR ALL DISCHARGERS

Reporting requirements identified in Part 1V. apply to all Dischargers (Tier 1, Tier 2, and Tier 3); unless otherwise indicated.

A. Receiving Water Quality Monitoring MRP Plan

1. **Within three months** of adoption of the Order or enrollment, Dischargers must submit a receiving water quality monitoring MRP Plan that includes the following minimum required components:
 - a. Monitoring strategy to achieve objectives of the Order and MRP;
 - b. Map of monitoring sites with GIS coordinates;
 - c. Identification of known water quality impairments and impaired waterbodies per the 2010 Clean Water Act 303(d) List of Impaired Waterbodies;
 - d. Identification of beneficial uses and applicable water quality standards;
 - e. Identification of applicable Total Maximum Daily Loads;
 - f. Monitoring parameters;
 - g. Monitoring schedule, including description and frequencies of monitoring events;
 - h. Description of data analysis methods;

B. Receiving Water Quality Monitoring QAPP

1. **Within three months** of adoption of the Order or enrollment, Dischargers, must submit a receiving water quality monitoring QAPP that contains adequate detail for project and Water Board staff to identify and assess the technical and quality objectives, measurement and data acquisition methods, and limitations of the data generated under the receiving water

quality monitoring. Following USEPA guidelines¹, the receiving water quality monitoring QAPP must include the following minimum required components:

- a. **Project Management.** This component addresses basic project management, including the project history and objectives, roles and responsibilities of the participants, and other aspects.
- b. **Data Generation and Acquisition.** This component addresses all aspects of project design and implementation. Implementation of these elements ensures that appropriate methods for sampling, measurement and analysis, data collection or generation, data handling, and quality control activities are employed and are properly documented.
- c. **Assessment and Oversight.** This component addresses the activities for assessing the effectiveness of the implementation of the project and associated QA and QC activities. The purpose of the assessment is to provide project oversight that will ensure that the QA Project Plan is implemented as prescribed.
- d. **Data Validation and Usability.** This component addresses the quality assurance activities that occur after the data collection, laboratory analysis and data generation phase of the project is completed. Implementation of these elements ensures that the data conform to the specified criteria, thus achieving the MRP objectives.

C. Receiving Water Quality Monitoring Exceedance Report

1. **Within five business days** after receiving the laboratory analytical report, Dischargers or an approved third-party, must evaluate all monitoring data and make a determination of any exceedances of water quality standards. The Discharger or an approved third-party must send the Exceedance Report to the Central Coast Water Board by email or fax within the next business day, including the estimated flow at the monitoring location and photographs of the site.

D. Receiving Water Quality Data Submittal

1. **Within nine months** of adoption of this Order and quarterly thereafter, Dischargers or an approved third-party must submit water quality monitoring data to the Central Coast Water Board electronically, in a format specified by the Executive Officer and compatible with SWAMP/CCAMP electronic submittal guidelines.

¹ USEPA. 2001 (2006) USEPA Requirements for Quality Assurance Project Plans (QA/R-5) Office of Environmental Information, Washington, D.C. USEPA QA/R-5

E. Receiving Water Quality Monitoring Annual Report

1. **Within one year** of adoption of this Order and annually thereafter, Dischargers or an approved third-party must submit an Annual Report, including the following minimum elements:
 - a. Signed Transmittal Letter;
 - b. Title Page;
 - c. Table of Contents;
 - d. Executive Summary;
 - e. Summary of Exceedance Reports submitted during the reporting period;
 - f. Monitoring objectives and design;
 - g. Sampling site descriptions and rainfall records for the time period covered;
 - h. Location of sampling sites and map(s);
 - i. Tabulated results of all analyses arranged in tabular form so that the required information is readily discernible;
 - j. Summary of water quality data for any sites monitored as part of related monitoring programs, and used to evaluate receiving water as described in the MRP Plan.
 - k. Discussion of data to clearly illustrate compliance with the Order and water quality standards;
 - l. Discussion of short term patterns and long term trends in receiving water quality and beneficial use protection;
 - m. Evaluation of pesticide and toxicity analyses results, and recommendation of candidate sites for Toxicity Identification Evaluations (TIEs);
 - n. Electronic data submitted in a SWAMP/CCAMP comparable format;
 - o. Sampling and analytical methods used;
 - p. Copy of chain-of-custody forms;
 - q. Field data sheets, signed laboratory reports, laboratory raw data;
 - r. Associated laboratory and field quality control samples results;
 - s. Summary of Quality Assurance Evaluation results;
 - t. Specify the method used to obtain flow at each monitoring site during each monitoring event;
 - u. Electronic or hard copies of photos obtained from all monitoring sites, clearly labeled with site ID and date;
 - v. Conclusions;

F. Groundwater Reporting

1. **Within two years** of adoption of the Order or enrollment, Dischargers must submit a Groundwater Report. Tier 3 Dischargers must submit Groundwater Reports, annually thereafter.

2. Dischargers must include the following information in the Groundwater Report regarding groundwater wells located at the agricultural operation, in a format specified by the Executive Officer:
 - a. Signed transmittal letter;
 - b. Number of groundwater wells present at each farm/ranch;
 - c. Identification of any groundwater wells abandoned;
 - d. Owner-assigned well identification;
 - e. Well location (latitude and longitude);
 - f. Water-use category (e.g., domestic drinking water, agricultural);
 - g. Identification of primary irrigation well;
 - h. Well construction information (e.g., total depth, screened intervals, depth to water), as available;
 - i. Use for fertigation or chemigation;
 - j. Presence and type of back flow prevention devices;
 - k. Photo-documentation of well condition and back flow prevention device;
 - l. Identification of wells sampled to comply with the Order and MRP;
 3. As part of the Groundwater Report, Dischargers must submit laboratory data in a format specified by the Executive Officer and compatible with the Water Board's Groundwater Ambient Monitoring and Assessment (GAMA) Program, and GeoTracker electronic deliverable format (EDF). Discharger may comply with the reporting requirement individually or as a group, if the laboratory data is submitted by an approved-third party.
- G.** Dischargers must submit reports in a format specified by the Executive Officer. A transmittal letter must accompany each report, containing the following penalty of perjury statement signed by the Discharger or the Discharger's authorized agent

"In compliance with Water Code §13267, I certify under penalty of perjury that this document and all attachments were prepared by me, or under my direction or supervision following a system designed to assure that qualified personnel properly gather and evaluate the information submitted. To the best of my knowledge and belief, this document and all attachments are true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

PART V. ADDITIONAL REPORTING REQUIREMENTS FOR TIER 2 AND TIER 3 DISCHARGERS

A. Annual Compliance Document.

1. **By October 12, 2012 annually thereafter**, Tier 2 and Tier 3 Dischargers must submit an Annual Compliance Document, in a format specified by the

Executive Officer. The purpose of the Annual Compliance Document is to provide information to the Central Coast Water Board to assist in the evaluation of threat to water quality from individual agricultural discharges and measure progress and verify compliance with the Order and MRP. The Annual Compliance Document includes, but is not limited to the following minimum requirements:

- a. Signed transmittal letter;
- b. Verification that any change in general operation or farm/ranch information (e.g., crop type, irrigation type, discharge type) is submitted on Notice of Intent (NOI);
- c. Specific information regarding type and characteristics of discharge (e.g., number of discharge points, estimated flow/volume, number of tailwater days);
- d. Identification of any direct agricultural discharges to a stream, lake, estuary, bay, or ocean;
- e. Identification of certifications that may indicate reduced threat to water quality (e.g., Organic, Sustainable in Practice);
- f. Identification of specific farm water quality management practices completed, in progress, and planned to address water quality impacts caused by discharges including irrigation management, pesticide management, nutrient management, salinity management, and sediment and erosion control (including stormwater management) to achieve compliance with this Order;
- g. Identification of treatment products or methods employed to reduce or eliminate discharge of waste;
- h. Description of any containment structures and if they are lined;
- i. Identification of groundwater wells abandoned;
- j. Concentration of nitrate in irrigation water;
- k. Proof of proper backflow prevention devices;
- l. Proof of approved California Department of Fish and Game (CDFG) Streambed Alteration Agreement, as required by CDFG for any work proposed within the bed, bank or channel of a lake or stream, including riparian areas, that has the potential to result in erosion and discharges of waste to waters of the State;
- m. Description of method and location of chlorpyrifos and diazinon applications relative to surface water;
- n. Statement of compliance with monitoring requirements, including any cooperative monitoring fees;
- o. Statement of completed Farm Plan and date of last update;
- p. Statement of completed water quality education hours;

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Tier 2 and Tier 3 Dischargers proximal to impaired for temperature, turbidity or sediment:

- q. Description of the extent of bare-dirt adjacent to streams and riparian, and wetland area habitat;
- r. Photo monitoring to document condition of streams, riparian, and wetland area habitat;

Tier 2 and Tier 3 Dischargers with High Nitrate Loading Risk:

- s. Nitrate Loading Risk level;
- t. Total nitrogen applied per acre to each farm/ranch or nitrate loading risk unit (in units of nitrogen, in any product, form or concentration) including, but not limited to, organic and inorganic fertilizers, slow release products, compost, compost teas, manure, extracts, nitrogen present in the soil, and nitrate in irrigation water;

Tier 3 Dischargers with High Nitrate Loading Risk:

- u. Proof of certified Irrigation and Nutrient Management Plan; (INMP);
- v. Specific elements of the INMP (e.g., Crop Nitrogen Uptake Values, Total Nitrogen applied, Nitrogen Balance Ratio, Estimate of Nitrate Loading to Groundwater, Estimate of Reduction in Nitrate Loading to Groundwater);
- w. INMP Verification Report;

Tier 3 Dischargers:

- x. Documentation of progress towards achieving milestones and compliance with water quality requirements in the Order, including but not limited to documentation of implementation of management practices, treatment or control measures, changes in farming practices, and results of individual discharge monitoring;

Part VI. Additional Reporting Requirements for Tier 3 Dischargers:

A. Individual Discharge MRP Plan;

1. **Within four months** of adoption of the Order or enrollment, Tier 3 Dischargers must submit an individual discharge monitoring MRP plan to monitor irrigation run-off, including tailwater discharges and discharges to tile drains, tailwater ponds and other surface water containment features, and stormwater discharges that includes the following minimum required components:
 - a. Number and location of discharge points;

- b. Number and location of monitoring points;
- c. Map of discharge and monitoring points;
- d. Sample collection methods;
- e. Monitoring parameters;
- f. Monitoring schedule and frequency of monitoring events;

B. Individual Discharge Monitoring QAPP

1. **Within four months** of adoption of the Order or enrollment, Tier 3 Dischargers, must submit an individual discharge monitoring QAPP that includes appropriate methods for sampling, measurement and analysis, data collection or generation, data handling, quality control activities, and documentation.

C. Individual Discharge Monitoring Data Submittal

1. **Within two years** of adoption of the Order or enrollment and quarterly thereafter, Tier 3 Dischargers must submit individual discharge monitoring data to the Central Coast Water Board electronically, in a format specified by the Executive Officer.

D. Individual Discharge Monitoring Annual Report

1. **Within two years** of adoption of the Order or enrollment and annually thereafter, Dischargers, must submit an individual discharge monitoring Annual Report to the Central Coast Water Board, including the following minimum elements:
 - a. Signed Transmittal Letter;
 - b. Title Page;
 - c. Table of Contents;
 - d. Executive Summary;
 - e. Summary of water of water quality exceedances;
 - f. Monitoring objectives and design;
 - g. Sampling site descriptions and rainfall records for the time period covered;
 - h. Location of sampling sites and map(s);
 - i. Tabulated results of all analyses arranged in tabular form so that the required information is readily discernible;
 - j. Discussion of data to clearly illustrate compliance with the Order and water quality standards;
 - k. Electronic data submitted;
 - l. Sampling and analytical methods used;
 - m. Copy of chain-of-custody forms, as appropriate;
 - n. Field data sheets, signed laboratory reports, laboratory raw data;
 - o. Specify the method used to obtain flow at each monitoring site during each monitoring event;

- p. Electronic or hard copies of photos obtained from all monitoring sites, clearly labeled with site ID and date;
- q. Identification of specific farm water quality management practices completed, in progress, and planned to address water quality impacts caused by discharges including irrigation management, pesticide management, nutrient management, salinity management, and sediment and erosion control (including stormwater management) to achieve compliance with this Order;
- r. Conclusions;

E. Irrigation and Nutrient Management Plan Verification

1. **Within five years** from adoption of the Order or enrollment, Tier 3 Dischargers with High Nitrate Loading Risk to groundwater, as defined by Order R3-2011-0006, must submit monitoring results to verify the overall effectiveness of the Irrigation and Nutrient Management Plan (INMP) in protecting groundwater quality and achieving water quality standards for nitrate. The INMP verification report must evaluate measured progress towards protecting, preserving, and restoring groundwater quality in the upper-most aquifer, including reductions in loading based on reduced fertilizer use and improved irrigation and nutrient management practices.
2. As an alternative to the development and implementation of an INMP, Tier 3 Dischargers with High Nitrate Loading Risk may implement and submit the results of an individual discharge groundwater monitoring and reporting program (GMRP) approved by the Executive Officer. The GMRP plan must evaluate waste discharge to groundwater from each ranch/farm or nitrate loading risk unit and assess impacts to groundwater.

F. Water Quality Buffer Plan *(required for subset of Tier 3 Dischargers that have operations that contain or are adjacent to waterbody impaired for temperature or turbidity);*

1. **Within four years** of the adoption of this Order, Tier 3 Dischargers located within 1,000 feet of a waterbody and in the drainage area of a waterbody identified on the Clean Water Act Section 303(d) List of Impaired Waterbodies as impaired for temperature or turbidity must submit a Water Quality Buffer Plan to the Executive Officer. The purpose of the Water Quality Buffer Plan is to prevent waste discharge, comply with water quality standards (e.g., temperature, turbidity), and protect beneficial uses in compliance with this Order and the following Basin Plan requirement:

Basin Plan (Chapter 5, p. V-13, Section V.G.4 – Erosion and Sedimentation, *“A filter strip of appropriate width, and consisting of undisturbed soil and riparian vegetation or its equivalent, shall be maintained, wherever possible, between significant land disturbance activities and watercourses, lakes, bays, estuaries, marshes, and other water bodies. For construction*

activities, minimum width of the filter strip shall be thirty feet, wherever possible as measured along the ground surface to the highest anticipated water line.”

2. As an alternative to the development and implementation of a Water Quality Buffer Plan, Tier 3 Dischargers may submit evidence to the Executive Officer to demonstrate that any discharge of waste is sufficiently treated or controlled such that is of sufficient quality where it will maintain existing high quality water, and not cause or contribute to exceedances of any water quality standards.
3. The Water Quality Buffer Plan must include the following or the functional equivalent, to address discharges of waste and associated water quality impairments:
 - a. A minimum 30 foot buffer (as measured horizontally from the top of bank on either side of the waterway, or from the high water mark of a lake and mean high tide of an estuary);
 - b. Any necessary increases in buffer width to adequately prevent the discharge of waste that may cause or contribute to any excursion above or outside the acceptable range for any Regional, State, or Federal numeric or narrative water quality standard (e.g., temperature, turbidity);
 - c. Any buffer less than 30 feet must provide equivalent water quality protection and be justified based on an analysis of site-specific conditions and be approved by the Executive Officer;
 - d. Identification of any alternatives implemented to comply with this requirement, that are functionally equivalent to described buffer;
 - e. Schedule for implementation;
 - f. Maintenance provisions to ensure water quality protection;
 - g. Annual photo monitoring to be included in the Annual Compliance Document;
 - h. Signed Transmittal Letter;

Part VII. Executive Officer Authority

The Executive Officer may modify the monitoring and reporting requirements where monitoring results, pesticide use patterns, or other indicators suggest that the increase is warranted due to an increased threat to water quality. The Executive Officer may revise this MRP as necessary, and Dischargers must comply with the MRP as revised by the Executive Officer.

DRAFT MONITORING AND REPORTING PROGRAM
ORDER NO. R3-2011-0006
CONDITIONAL WAIVER OF
WASTE DISCHARGE REQUIREMENTS
FOR DISCHARGES FROM IRRIGATED LANDS

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I, ROGER W. BRIGGS, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Coast Region, on March 17, 2011.

ROGER W. BRIGGS
Executive Officer

Table 1. Major Waterbodies in Agricultural Areas¹

Hydrologic SubArea	Waterbody Name	Hydrologic SubArea	WaterBody Name
30510	Harkins Slough	31022	Chorro Creek
30510	Pajaro River	31023	Los Osos Creek
30510	Salsipuedes Creek	31023	Warden Creek
30510	Watsonville Slough	31024	Prefumo Creek
30530	Llagas Creek	31024	San Luis Obispo Creek
30530	Tesquisquita Slough	31031	Arroyo Grande Creek
30530	Millerton Canal	31031	Los Berros Creek
30600	Moro Cojo Slough	31210	Bradley Canyon Creek
30910	Blanco Drain	31210	Main Street Canal
30910	Old Salinas River	31210	Orcutt Solomon Creek
30910	Salinas River (below Chualar)	31210	Oso Flaco Creek
30910	Tembladero Slough	31210	Little Oso Flaco Creek
30920	Alisal Creek	31210	Santa Maria River
30920	Chualar Creek	31410	Santa Ynez River
30920	Gabilan Creek	31531	Bell Creek
30920	Natividad Creek	31531	Glenn Annie Creek
30920	Quail Creek	31534	Arroyo Paredon Creek
30920	Salinas Reclamation Canal	31534	Franklin Creek
30920	Espinosa Slough		

¹ At a minimum, sites must be included for these major waterbodies in agricultural areas. Sites may be proposed for addition or modification to better assess the impacts of waste discharges from irrigated lands to surface water.

Table 2. Receiving Water Quality Monitoring Parameters

Parameters and Tests	RL ³	Monitoring Frequency ¹
Photo Monitoring		
Photograph of monitoring location		With every monitoring event
<u>WATER COLUMN SAMPLING</u>		
Physical Parameters and General Chemistry		
Flow (field measure) (CFS)	.25	Monthly, plus 2 stormwater events
pH (field measure)	0.1	"
Electrical Conductivity (field measure) (uS/cm)	2.5	"
Dissolved Oxygen (field measure) (mg/L)	0.1	"
Temperature (field measure) (°C)	0.1	"
Turbidity (NTU)	0.5	"
Total Dissolved Solids (mg/L)	10	"
Total Suspended Solids (mg/L)	0.5	"
Hardness (mg/L as CaCO ₃)	1	"
Total Organic Carbon (ug/L)	0.6	"

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Parameters and Tests	RL ³	Monitoring Frequency ¹
Nutrients		
Total Kjeldahl Nitrogen (mg/L)	0.5	Monthly, plus 2 stormwater events
Nitrate + Nitrite (as N) (mg/L)	0.1	"
Total Ammonia (mg/L)	0.1	"
Unionized Ammonia (calculated value, mg/L)		"
Total Phosphorous (as P) (mg/L)	-	"
Soluble Orthophosphate (mg/L)	0.01	"
Water column chlorophyll a (ug/L)	0.002	Monthly only
Floating Algal Mats, % coverage	-	Monthly only
Pathogens		
Fecal coliform (MPN/100 ml)	2	Quarterly, plus 2 stormwater events
<i>E. coli</i> (MPN/100 ml)	2	"
Water Column Toxicity Test		
Algae - <i>Selenastrum capricornutum</i> , 4 day	-	Twice in dry season, twice in wet season
Water Flea – <i>Ceriodaphnia</i> (7-day chronic)	-	"
Fathead Minnow - <i>Pimephales promelas</i> (7-day chronic)	-	"
Toxicity Identification Evaluation (TIE)	-	As directed by Executive Officer
Pesticides² (ug/L)		
Carbamates		
Aldicarb	0.05	4 times, concurrent with water toxicity monitoring, in second year of Order term
Carbaryl	0.05	"
Carbofuran	0.05	"
Methiocarb	0.05	"
Methomyl	0.05	"
Oxamyl	0.05	"
Organophosphate Pesticides		
Azinphos-methyl	0.05	"
Chlorpyrifos	0.05	"
Diazinon	0.05	"
Dichlorvos	0.05	"
Dimethoate	0.05	"
Dimeton-s	0.05	"
Disulfoton (Disyton)	0.05	"

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Parameters and Tests	RL ³	Monitoring Frequency ¹
Malathion	0.05	4 times, concurrent with water toxicity monitoring, in second year of Order term
Methamidophos	0.05	"
Methidathion	0.05	"
Parathion-methyl	0.05	"
Phorate	0.05	"
Phosmet	0.05	"
Herbicides		
Atrazine	0.05	"
Cyanazine	0.20	"
Diuron	0.05	"
Glyphosate	2.0	"
Linuron	0.1	"
Paraquat dichloride	4	"
Simazine	0.05	"
Trifluralin	0.05	"
Metals (ug/L)		
Arsenic (total)	0.3	4 times, concurrent with water toxicity monitoring, in second year of Order term
Boron (total)	10	"
Cadmium (total and dissolved)	0.01	"
Copper (total and dissolved)	0.01	"
Lead (total and dissolved)	0.01	"
Nickel (total and dissolved)	0.02	"
Molybdenum (total)	1	"
Selenium (total)	0.30	"
Zinc (total and dissolved)	0.10	"
Other (ug/L)		
Phenol	10	4 times, concurrent with water toxicity monitoring, in second year of Order term
SEDIMENT SAMPLING		
Sediment Toxicity - Hyalella azteca 10-day		Annually
Benthic Invertebrate Assessment	SWAMP SOP	Once during the second year of Order concurrent with sediment toxicity sampling
Pyrethroid Pesticides in Sediment (ug/kg)		
Gamma-cyhalothrin	25	Once during second year of Order, concurrent with sediment toxicity sampling
Lambda-cyhalothrin	25	"
Bifenthrin	25	"

Parameters and Tests	RL ³	Monitoring Frequency ¹
Delta-Methrin	25	Once during second year of Order, concurrent with sediment toxicity sampling
Beta-cyfluthrin	25	"
Cyfluthrin	25	"
Esfenvalerate	25	"
Permethrin	25	"
Cypermethrin	25	"
Organochlorine Pesticides in Sediment		
DDD	2	"
DDE	2	"
DDT	5	"
Dicofol	2	"
Dieldrin	2	"
Endrin	2	"
Methoxychlor	5	"
Other		
Chlorpyrifos (ug/L)	2	"
Total Organic Carbon	0.01%	"
Sediment Grain Size Analysis	1%	"

¹Monitoring is ongoing through all five years of the Order, unless otherwise specified. Monitoring frequency may be used as a guide for developing alternative MRP Plan.

²Pesticide list may be modified based on specific pesticide use in Central Coast Region.

³Reporting Limit, taken from SWAMP where applicable.

Table 3. Groundwater Sampling Parameters

Parameter	RL	Analytical Method	Units
Depth to Groundwater	-	Field Measurement	feet/bgs
pH	0.1	Field or Laboratory Measurement EPA General Methods	pH Units
Specific Conductance	2.5		µS/cm
Total Dissolved Solids	10		General Cations EPA 200.7, 200.8, 200.9
Alkalinity as CaCO ₃	1		
Calcium	0.05		
Magnesium	0.02		
Sodium	0.1		
Potassium	0.1		
Sulfate (SO ₄)	1.0	General Anions EPA Method 300	
Chloride	0.1		
Nitrate + Nitrite (as N)	0.1		

bgs – below ground surface; RL – Reporting Limit; µS/cm – micro siemens per centimeter

Table 4A. Individual Discharge Monitoring for Tailwater, Tile drain, and Stormwater Discharges

Parameter	Analytical Method ¹	Maximum PQL	Units	Min Sampling Frequency
Discharge Flow or Volume	Field Measure	---	CFS	(a) (d)
Approximate Duration of Flow	Calculation	---	hours/month	
Temperature (water)	Field Measure	0.1	° Celsius	
pH	Field Measure	0.1	pH units	
Electrical Conductivity	Field Measure	100	mhos/cm	
Turbidity	SM 2130B, EPA 180.1	1	NTUs	
Nitrate + Nitrite (as N)	EPA 300.1, EPA 353.2	0.1	mg/L	
Ammonia	SM 4500 NH3, EPA 350.3	0.1	mg/L	
Chlorpyrifos ²	EPA 8141A, EPA 614	0.02	ug/L	
Diazinon ²				
Algae Toxicity (Selenastrum)	EPA-821-R-02-013	NA	% Survival	
Ceriodaphnia Toxicity (96-hr acute)	EPA-821-R-02-012			

¹ "Quick test strips" and handheld water quality meters may be used if method or device is approved by EPA and appropriate sampling methodology and quality assurance protocols are used to ensure accuracy of the test.

² "If chlorpyrifos or diazinon is used at the farm/ranch, otherwise does not apply.

- (a) Two times per year during primary irrigation season for operations greater than 1000 acres but less than 5000 acres, and four times per year during primary irrigation season for operations greater than 5000 acres.
- (b) Once per year during primary irrigation season for operations greater than 1000 acres but less than 5000 acres, and two times per year during primary irrigation season for operations greater than 5000 acres.
- (c) Sample must be collected within one week of chemical application, if chemical is applied on farm/ranch;
- (d) Once per year during wet season (October – March) for operations greater than 1000 acres but less than 5000 acres, and two times per year during wet season for operations greater than 5000 acres, within 18 hours of major storm events;

CFS – Cubic feet per second
 NTU – Nephelometric turbidity unit
 PQL – Practical Quantitation Limit
 NA – Not applicable

Table 4B. Individual Discharge Monitoring for Tailwater Ponds and other Surface Containment Features

Parameter	Analytical Method ¹	Maximum PQL	Units	Minimum Sampling Frequency
Volume of Pond	Field Measure	1	Gallons	(a) (d)
Nitrate + Nitrite (as N)	EPA 300.1, EPA 353.2	50	ug/L	

¹ "Quick test strips" and handheld water quality meters may be used if method or device is approved by EPA and appropriate sampling methodology and quality assurance protocols are used to ensure accuracy of the test.

- (a) Four times per year during primary irrigation season;
- (d) Two times per year during wet season (October – March, within 18 hours of major storm events)

Table 5. Time Schedule for Key Monitoring and Reporting Requirements

REQUIREMENT	TIME SCHEDULE ¹
<i>Tier 1, Tier 2 and Tier 3:</i>	
Submit Quality Assurance Project Plan and MRP Plan for Receiving Water Quality Monitoring	Within three months
Initiate receiving water quality monitoring	Within six months
Submit receiving water quality monitoring data	Within nine months, quarterly thereafter
Submit receiving water quality Annual Monitoring Report	Within one year, annually thereafter
Initiate sampling of groundwater wells	Within one year
Submit Groundwater Report	Within two years
<i>Tier 2 and Tier 3:</i>	
Conduct photo monitoring of riparian or wetland habitat (if operation contains or is adjacent to a waterbody impaired for temperature or turbidity)	Within one year
Submit Annual Compliance Document	October 1, 2012, and annually thereafter
<i>Only Tier 3:</i>	
Submit Quality Assurance Project Plan and, MRP Plan, for Individual Discharge Monitoring	Within four months
Initiate individual discharge monitoring	Within six months
Submit individual discharge quality monitoring data	Within two years, quarterly thereafter
Submit individual discharge monitoring Annual Report	Within two years, and annually thereafter
Submit Water Quality Buffer Plan (if operation contains or is adjacent to a waterbody impaired for temperature, turbidity, or sediment)	Within four years
Submit INMP Verification Report (if discharge has High Nitrate Loading Risk)	Within five years

¹ Dates are relative to adoption of this Order or enrollment date for Dischargers enrolled after the adoption of this Order, unless otherwise specified.