

ATTACHMENT 1

ORDER NO. R5-2013-XXXX

REVISING ORDER NO. R5-2012-0116
WASTE DISCHARGE REQUIREMENTS GENERAL ORDER
FOR GROWERS WITHIN THE EASTERN SAN JOAQUIN RIVER WATERSHED
THAT ARE MEMBERS OF THE THIRD-PARTY GROUP

Waste Discharge Requirements General Order R5-2012-0116
Revisions to pages Table of Contents, 13, 20, 21, 22, 26, 27, 35, 37

Attachment A to Order R5-2012-0116
Revisions to pages 1, 2, 13, 22, 23, 25-27

Attachment B to Order R5-2012-0116
Revisions to pages 1, 4, 5, 14, 15, 23

Monitoring and Reporting Program R5-2012-0116, Appendix MRP-2
Revisions to pages 1, 2

T
E
N
T
A
T
I
V
E

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER R5-2012-0116 (as revised on XX Oct 2013)

WASTE DISCHARGE REQUIREMENTS GENERAL ORDER
FOR
GROWERS WITHIN THE EASTERN SAN JOAQUIN RIVER WATERSHED
THAT ARE MEMBERS OF THE THIRD-PARTY GROUP

TABLE OF CONTENTS

Findings.....	1
I. Coverage.....	17
II. Prohibitions.....	17
III. Receiving Water Limitations.....	17
A. Surface Water Limitations.....	17
B. Groundwater Limitations.....	17
IV. Provisions.....	17
A. General Specifications.....	17
B. Requirements for Members of the Third-Party Group.....	18
C. Requirements for the Third-Party Group.....	20
V. Effective Dates.....	21
VI. Permit Reopening, Revision, Transfer, Revocation, Termination, and Reissuance.....	22
VII. Required Reports and Notices – Member.....	23
A. Notice of Confirmation / Notice of Intent / Membership Application.....	23
B. Farm Evaluation.....	24
C. Sediment and Erosion Control Plan.....	25
D. Nitrogen Management Plan.....	26
E. Mitigation Monitoring.....	27
F. Notice of Termination.....	27
VIII. Required Reports and Notices – Third-Party.....	28
A. Application to Serve as a Third-Party Representing Members.....	28
B. Membership (Participant) List.....	28
C. Templates.....	29
D. Groundwater Quality Assessment Report and Evaluation/Monitoring Workplans.....	30
E. Sediment Discharge and Erosion Assessment Report.....	31
F. Surface Water Exceedance Reports.....	32
G. Monitoring Report.....	32
H. Surface Water/Groundwater Quality Management Plan (SQMP/GQMP).....	32
I. Technical Reports.....	34
J. Notice of Termination.....	34
K. Total Maximum Daily Load (TMDL) Requirements.....	34
IX. Reporting Provisions.....	34
X. Record-keeping Requirements.....	36
XI. Annual Fees.....	36
XII. Time Schedule for Compliance.....	36

T
E
N
T
A
T
I
V
E

(commencing with Food and Agriculture Code section 13142). The program is intended to prevent contamination of groundwater from the legal application of pesticides. In addition to activities mandated by the PCPA, DPR's program has incorporated approaches to identify areas vulnerable to pesticide movement, develop mitigation measures to prevent pesticide contamination, and monitor domestic drinking water wells located in groundwater protection areas. The Groundwater Protection Program can provide valuable information on potential impacts to groundwater from agricultural pesticides. If necessary, DPR and the county agricultural commissioners can use their regulatory authorities to address any identified impacts to groundwater or surface water attributable to pesticide discharges from agricultural fields.

- 46 California Department of Food and Agriculture (CDFA): The CDFA Fertilizer Research and Education Program (FREP) coordinates research to advance the environmentally safe and agronomically sound use and handling of fertilizer materials. Currently, CDFA is developing nitrogen management training programs for farmers and Certified Crop Advisors (CCA). Among other certification options available for nitrogen management plans, the CDFA training programs will be recognized as providing the training necessary for a farmer or CCA to certify nitrogen management plans in high vulnerability groundwater areas. In addition, this Order requires the development of a template for a nitrogen management plan. CDFA has had an active role in working with the agricultural community on the concepts related to the template and that role is expected to continue. This Order leverages CDFA's work and expertise with respect to nitrogen management training and technical support to the professionals and third-parties that will be developing nitrogen management plans for individual Members.

- 47 Nitrogen Management and Control – CDFA, in coordination with the Water Boards, is convening a Task Force to identify intended outcomes and expected benefits of a nitrogen mass balance tracking system in nitrate high-risk areas. The CDFA Task Force may identify appropriate nitrogen tracking and reporting systems, and potential alternatives, that would provide meaningful and high quality data to help better protect groundwater quality.

In the Report to the Legislature,¹³ the State Water Resources Control Board (SWRCB) has committed to convene a panel of experts from a broad spectrum of relevant disciplines (Expert Panel) to assess existing agricultural nitrate control programs and develop recommendations, as needed, to ensure that ongoing efforts are protective of groundwater quality. The Expert Panel will evaluate ongoing agricultural control measures that address nitrate in groundwater, and will propose new measures, if necessary. In its assessment of existing agricultural nitrate control programs and development of recommendations for possible improvements in the regulatory approaches being used, the Expert Panel will consider groundwater monitoring, mandatory adoption of best management practices, tracking and reporting of nitrogen fertilizer application, estimates of nitrogen use efficiency or a similar metric, and farm-specific nutrient management plans as source control measures and regulatory tools.

The deadlines for preparation of a nitrogen management plan and associated reporting have been established to allow the board to make any necessary adjustments to this Order based on the findings and recommendations of the CDFA Task Force and the SWRCB Expert Panel.

¹³ State Water Board Resources Control Board. 2013. Report to the Legislature, Recommendations Addressing Nitrate in Groundwater <http://www.swrcb.ca.gov/water_issues/programs/nitrate_project/docs/nitrate_rpt.pdf>

T
E
N
T
A
T
I
V
E

University of California Cooperative Extension recommendation, or an equivalent alternative standard.

17. Where applicable, the Member shall follow state, county or local agency standards with respect to water wells and groundwater quality when constructing new wells, modifying existing wells, or destroying wells. Absent such standards, at a minimum, the Member shall follow the standards and guidelines described in the California Department of Water Resources' *Water Well Standards (Bulletins 74-81 & 74-90 combined)*.
18. The Member shall maintain a copy of this Order, either in hard copy or electronic format, at the primary place of business, or the Member's headquarters for its farming operation. The Member shall also maintain excerpts of the Order's Member requirements that have been provided by the Executive Officer, so as to be available at all times to operations personnel. The Member and his/her designee shall be familiar with the content of this Order.
19. The Member, or the third-party on its behalf as applicable, shall submit all required documents in accordance with section IX of this Order.
20. Members shall, at a minimum, implement water quality management practices that meet the following farm management performance standards:
 - a. Minimize waste discharge offsite in surface water,
 - b. Minimize percolation of waste to groundwater,
 - c. Protect wellheads from surface water intrusion.
21. Members shall implement the applicable management practices, or equivalent practices, identified as protective of groundwater in the Management Practices Evaluation Report.

C. Requirements for the Third-Party Group

In order to remain eligible to serve as a third-party representative to Members, the third-party shall perform the following:

1. Provide the Central Valley Water Board documentation of its organizational or management structure. The documentation shall identify persons responsible for ensuring that program requirements are fulfilled. The documentation shall be made readily available to Members.
2. Prepare annual summaries of expenditures of fees and revenue used to comply with this Order. The summaries shall be provided to or made readily available to Members.
3. If the third-party group receives a notice of violation (NOV) from the Central Valley Water Board, the third-party must provide to Members in the area addressed by the NOV appropriate information regarding the reason(s) for the violation. The notification must be provided to all Members within the area affected by the NOV within thirty (30) days of receiving the NOV from the board. The third-party group must provide confirmation to the board of each notification. A summary of all notices of violation received by the third-party group must be provided to all Members annually.
4. Develop and implement plans to track and evaluate the effectiveness of water quality management practices, pursuant to approved Surface Water Quality Management Plans and Groundwater Quality Management Plans.
5. Provide timely and complete submittal of any plans or reports required by this Order.
6. Conduct required water quality monitoring and assessments in conformance with quality

T
E
N
T
A
T
I
V
E

assurance/quality control requirements. Provide timely and complete submittal of any reports required by this Order.

7. Within 30 days of receiving an NOA from the Central Valley Water Board (as described in section VIII.A), inform Members of this Order's requirements by providing a notice of confirmation form to be completed by each Member.
8. Conduct education and outreach activities to inform Members of program requirements and water quality problems, including exceedances of water quality objectives or degradation of water quality, identified by the third-party or Central Valley Water Board. The third-party shall:
 - a. Maintain attendance lists for outreach events, provide Members with information on water quality management practices that will address water quality problems and minimize the discharge of wastes from irrigated lands, and provide informational materials on potential environmental impacts of water quality management practices to the extent known by the third-party group.
 - b. Provide an annual summary of education and outreach activities to the Central Valley Water Board. The annual summary shall include copies of the educational and management practice information provided to the growers. The annual summary must report the total number of growers who attended the outreach events and describe how growers could obtain copies of the materials presented at these events.
9. Work cooperatively with the Central Valley Water Board to ensure all Members are providing required information and taking necessary steps to address exceedances or degradation identified by the third-party or board. As part of the Membership List submittal, identify the growers who have: (1) failed to implement improved water quality management practices within the timeframe specified by an applicable SQMP/GQMP; (2) failed to respond to an information request associated with any applicable SQMP/GQMP or other provisions of this Order; (3) failed to participate in third-party studies for which the third-party is the lead; (4) failed to provide confirmation of participation in an outreach event (per section IV.B.4 of this Order); or (5) failed to submit required fees to the third-party.
10. Ensure that any activities conducted on behalf of the third-party by other groups meet the requirements of this Order. The third-party is responsible for any activities conducted on its behalf.
11. Collect any fees from Members required by the State Water Board pursuant to the fee schedule contained in Title 23 CCR. Such fees shall then be submitted to the State Water Board.

V. Effective Dates

1. This Order is effective upon adoption by the Central Valley Water Board on **7 December 2012** and remains in effect as revised by the Central Valley Water Board on XX October 2013, unless rescinded or further revised by the Central Valley Water Board.
2. Regulatory coverage under this Order for discharges of waste from Members already enrolled under Order R5-2006-0053 is effective upon adoption of this Order by the Central Valley Water Board. Regulatory coverage under this Order is automatically terminated, if a Notice of Confirmation (NOC) is not received by the third-party from the currently enrolled Member within 120 days of Executive Officer issuance of an NOA to the third-party.

T
E
N
T
A
T
I
V
E

3. Regulatory coverage for Dischargers not already enrolled under Order R5-2006-0053 as of the date of adoption of this Order can be obtained directly through obtaining membership in the third-party group within 120 days of Executive Officer issuance of a Notice of Applicability (NOA) to the third-party. Regulatory coverage is effective when the third-party notifies the Central Valley Water Board that the Discharger's application for membership has been accepted.
4. After the initial 120-day period following issuance of an NOA to the third-party group, regulatory coverage is effective upon notification by the Central Valley Water Board that this Order applies to the grower through the issuance of an NOA. The Central Valley Water Board shall only issue an NOA after it has received a Notice of Intent (NOI) as required by section VII.A, and after the Central Valley Water Board has received notification from the third-party that the Discharger is a Member. The Discharger must pay any applicable State Water Board administrative fees associated with the filing of NOIs.

VI. Permit Reopening, Revision, Transfer, Revocation, Termination, and Reissuance

1. This Order may be reopened to address any changes in state statutes, regulations, plans, or policies that would affect the water quality requirements for the discharges, including, but not limited to, the Central Valley Water Board *Water Quality Control Plan (Basin Plan) for the Sacramento River and San Joaquin River Basins*.
2. The filing of a request by the third-party on behalf of its Members for modification, revocation and re-issuance, or termination of the Order, or notification of planned changes or anticipated noncompliance, does not stay any condition of the Order.
3. The third-party, on behalf of its Members, shall provide to the Executive Officer any information which the Executive Officer may request to determine whether cause exists for modifying, revoking and re-issuing, or terminating the Order, or to determine compliance with the requirements of this Order that apply directly to the third-party. Members shall provide to the Executive Officer, any information which the Executive Officer may request to determine whether cause exists for modifying, revoking and re-issuing, or terminating the Order as applied to the individual Member, or to determine compliance with the provisions of this Order that apply directly to the Member.
4. After notice and opportunity for a hearing, the Order may be terminated or modified for cause as applied to individual Members identified by the Central Valley Water Board. Cause for such termination or modification, includes, but is not limited to:
 - a. Violation of any term or condition contained in the Order;
 - b. Obtaining the Order by misrepresentation; or
 - c. Failure to fully disclose all relevant facts.

A Member's regulatory coverage shall be automatically revoked if the NOC is not timely submitted (see section VII.A).

5. After notice and opportunity for a hearing, the approval of the third-party to act as a lead entity representing Members may be partially (e.g., affected areas or Members) or fully revoked. Cause for such termination or modification includes, but is not limited to consideration of the factors in Finding 5150 of this Order, and/or:

T
E
N
T
A
T
I
V
E

2. Deadline for all Other Members¹⁹

Within 180 days of the Executive Officer accepting the third party's Sediment Discharge and Erosion Assessment Report, all other Members must complete and implement a Sediment and Erosion Control Plan.

D. Nitrogen Management Plan

Members must prepare and implement a Nitrogen Management Plan and submit the Nitrogen Management Plan Summary Report for the previous crop year as described below. The Member must use the Nitrogen Management Plan Template approved by the Executive Officer (see section VIII.C below). The Nitrogen Management Plan and Nitrogen Management Plan Summary Report shall be maintained at the Member's farming operations headquarters or primary place of business. The Member must provide the Nitrogen Management Plan and Summary Report to board staff, if requested or, should board staff or an authorized representative conduct an inspection of the Member's irrigated agricultural operation. In addition, Members shall comply with the following requirements where applicable:

1. All Members within a High Vulnerability Groundwater Area

For Members located within a high vulnerability groundwater area, for which nitrate is identified as a constituent of concern, the Member must prepare and implement a certified Nitrogen Management Plan. The plan must be certified in one of the following ways:

- Self-certified by the Member who attends a California Department of Food and Agriculture or other Executive Officer approved training program for nitrogen plan certification. The Member must retain written documentation of their attendance in the training program; or
- Self-certified by the Member that the plan adheres to a site-specific recommendation from the Natural Resources Conservation Service (NRCS) or the University of California Cooperative Extension. The Member must retain written documentation of the recommendation provided; or
- Certified by a nitrogen management plan specialist as defined in Attachment E of this Order. Such specialists include Professional Soil Scientists, Professional Agronomists, Crop Advisors²⁰ certified by the American Society of Agronomy, or Technical Service Providers certified in nutrient management in California by the National Resource Conservation Service (NRCS).
- Certified in an alternative manner approved by the Executive Officer. Such approval will be provided based on the Executive Officer's determination that the alternative method for preparing the Nitrogen Management Plan meets the objectives and requirements of this Order.

a. Deadlines for Members with Small Farming Operations

By 1 March ~~2016~~2017, Members with Small Farming Operations shall prepare, and update by 1 March annually thereafter, a Nitrogen Management Plan. By 1 March ~~2017~~2018, and by 1

¹⁹ Members with parcels that do not meet the Small Farming Operation definition (see Attachment E).

²⁰ Should the California Department of Food and Agriculture and the California Certified Crop Adviser's establish a specific nitrogen management certification, any Certified Crop Adviser who certifies a nitrogen management plan must have a nitrogen management certification.

T
E
N
T
A
T
I
V
E

March annually, thereafter, Members with Small Farming Operations shall submit to the third-party the Nitrogen Management Plan Summary Report for the previous year.

b. Deadlines for all other Members²¹

By 1 March ~~2014~~2015, all other Members shall prepare, and update by 1 March annually thereafter, a Nitrogen Management Plan. By 1 March ~~2015~~2016, and by 1 March annually, thereafter, all other Members shall submit to the third-party the Nitrogen Management Plan Summary Report for the previous year.

c. Deadlines for Members re-designated from Low Vulnerability to High Vulnerability Groundwater Areas

Members with parcel(s) re-designated from low vulnerability to high vulnerability groundwater areas must prepare a Nitrogen Management Plan in compliance with this section (VII.D.1).²² The schedule for certifying the Nitrogen Management Plan and submitting the initial Nitrogen Management Plan Summary Report will be established by the Executive Officer.

After 1 March ~~2017~~2018, the Executive Officer may approve reduction in the frequency of submission of Nitrogen Management Plan Summary Reports, if the third-party demonstrates that year to year changes in Nitrogen Management Summary Reports are minimal and the Executive Officer concurs that the implemented practices are achieving the performance standard (see section IV.B.8).

2. Members within a Low Vulnerability Groundwater Area

By 1 March ~~2016~~2017, all Members within low vulnerability areas shall prepare, and update by 1 March annually thereafter, a Nitrogen Management Plan. The Member must use the Nitrogen Management Plan Template approved by the Executive Officer (see section VIII.C below), or equivalent. Certification of the Nitrogen Management Plan and submittal of a Nitrogen Management Plan Summary Report are not required.

E. Mitigation Monitoring

As specified in this Order, certain members are required to implement the mitigation measures included in Attachment C. Such Members shall submit mitigation monitoring by 1 March of each year to the third-party. Mitigation monitoring shall include information on the implementation of CEQA mitigation measures, including the mitigation measure implemented, potential environmental impact the mitigation measure addressed, location of the mitigation measure [parcel number, county], and any steps taken to monitor the ongoing success of the measure.

F. Notice of Termination

If the Member wishes to terminate coverage under this Order and withdraw its membership from the third-party, the Member shall submit a complete notice of termination (NOT) to the Central Valley Water Board and the third-party. Termination of regulatory coverage will occur on the date specified in the NOT, unless the Central Valley Water Board specifies otherwise. All discharges of waste to surface and groundwaters shall cease before the date of termination, and any discharges on or after this date shall be considered in violation of the California Water Code, unless other WDRs or waivers of WDRs regulate the discharge.

²¹ Members with parcels that do not meet the Small Farming Operation definition (see Attachment E).

²² The designation of the vulnerability area may change based on updates to the Groundwater Quality Assessment Report (see the MRP – Attachment B).

T
E
N
T
A
T
I
V
E

2. All reports shall be accompanied by a cover letter containing the certification specified in section IX.3 below. The cover letter shall be signed by a person identified below, or by a duly authorized representative of that person:

For all reports:

- a. For a sole proprietorship: by the proprietor;
- b. For a partnership: by a general partner;
- c. For a corporation or the third-party: by a principal executive officer of at least the level of senior vice-president.

A person is a duly authorized representative only if:

- i. The authorization is made in writing by a person described in subsection a, b, or c of this provision; and
 - ii. The authorization specifies either an individual or a position having responsibility for the overall operation of the facility or organization, such as the position of manager. A duly authorized representative may thus be either a named individual or an individual occupying a named position; and
 - iii. The written authorization is submitted to the Central Valley Water Board.
3. Each person signing a report required by this Order or other information requested by the Central Valley Water Board shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel or represented Members properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for knowingly submitting false information, including the possibility of fine and imprisonment for violations."

4. All reports prepared and submitted to the Executive Officer in accordance with the terms of this Order will be made available for public inspection at the offices of the Central Valley Water Board, except for reports, or portions of such reports, subject to an exemption from public disclosure in accordance with California law and regulations, including the Public Records Act, Water Code section 13267(b)(2), and the California Food and Agriculture Code. If the third-party or a Member ~~or~~ of the third-party asserts that all or a portion of a report is subject to an exemption from public disclosure, it must clearly indicate on the cover of the report that it asserts that all or a portion of the report is exempt from public disclosure. The complete report must be submitted with those portions that are asserted to be exempt in redacted form, along with separately-bound unredacted pages (to be maintained separately by staff). The Member/third-party shall identify the basis for the exemption. If the Executive Officer cannot identify a reasonable basis for treating the information as exempt from disclosure, the Executive Officer will notify the Member/third-party that the information will be placed in the public file unless the Central Valley Water Board receives, within 10 calendar days, a satisfactory explanation supporting the claimed exemption. Data on waste discharges, water quality, meteorology, geology, and hydrogeology shall not be considered confidential. NOIs shall generally not be considered exempt from disclosure.

T
E
N
T
A
T
I
V
E

Groundwater: The time schedule identified in a GQMP for compliance with Groundwater Limitation III.B must be as short as practicable, but may not exceed 10 years from the date the GQMP is submitted for approval by the Executive Officer. The proposed time schedules in the GQMP must be supported with appropriate technical or economic justification as to why the proposed schedules are as short as practicable.

This Order becomes effective on 7 December 2012 and remains in effect as revised on XX October 2013 unless rescinded or further revised by the Central Valley Water Board.

I, PAMELA C. CREEDON, Executive Officer, do hereby certify the foregoing is a full and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region on 7 December 2012, and revised on XX October 2013.

PAMELA C. CREEDON, Executive Officer

Date

T
E
N
T
A
T
I
V
E

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

**Attachment A to Order R5-2012-0116 (as revised on XX Oct 2013)
INFORMATION SHEET**

WASTE ~~DISCHARGE~~DISCHARGE REQUIREMENTS GENERAL ORDER
FOR
GROWERS WITHIN THE EASTERN SAN JOAQUIN RIVER WATERSHED
THAT ARE MEMBERS OF THE THIRD-PARTY GROUP

Table of Contents

<u>Overview</u>	<u>2</u>
<u>Introduction.....</u>	<u>2</u>
<u>Goals and Objectives of the Irrigated Lands Regulatory Program</u>	<u>3</u>
<u>Description of the Eastern San Joaquin Watershed Area</u>	<u>4</u>
<u>East San Joaquin Water Quality Coalition (ESJWQC) Organization.....</u>	<u>8</u>
<u>Grower Enrollment Process.....</u>	<u>8</u>
<u>Groundwater Quality Vulnerability</u>	<u>9</u>
<u>Surface Water and Groundwater Monitoring</u>	<u>9</u>
<u>Surface Water Quality Monitoring</u>	<u>9</u>
<u>Irrigated Lands Regulatory Program (ILRP) – Surface Water Quality Monitoring.....</u>	<u>9</u>
<u>Surface Water Management Plans.....</u>	<u>12</u>
<u>Groundwater Quality.....</u>	<u>14</u>
<u>Groundwater Monitoring Advisory Workgroup.....</u>	<u>14</u>
<u>Groundwater Quality Monitoring and Management Practice Assessment, and Evaluation Requirements.....</u>	<u>15</u>
<u>Data Summary, Pesticides.....</u>	<u>16</u>
<u>Data Summary Nitrates – GeoTracker GAMA.....</u>	<u>17</u>
<u>Hydrogeologically Vulnerable Areas</u>	<u>18</u>
<u>Groundwater Quality Management Plans (GQMPs)</u>	<u>19</u>
<u>Farm Evaluations.....</u>	<u>20</u>
<u>Nitrogen Management Plans.....</u>	<u>21</u>
<u>Spatial Resolution of Nitrogen Management Plan and Farm Evaluation Information.....</u>	<u>22</u>
<u>Sediment and Erosion Control Plans.....</u>	<u>23</u>
<u>Small Farming Operations</u>	<u>24</u>
<u>Technical Reports</u>	<u>25</u>
<u>Approach to Implementation and Compliance and Enforcement</u>	<u>25</u>
<u>Reports and Plans.....</u>	<u>27</u>
<u>Water Quality Objectives.....</u>	<u>27</u>
<u>Implementation of Water Quality Objectives</u>	<u>28</u>
<u>Non-Point Source (NPS) Program.....</u>	<u>28</u>
<u>California Environmental Quality Act (CEQA).....</u>	<u>30</u>
<u>Mitigation Measures</u>	<u>31</u>

T
E
N
T
A
T
I
V
E

Statement of policy with respect to maintaining high quality waters in California (State Water Board Resolution 68-16)32
 Background.....32
 Application of Resolution 68-16 Requirements to this Order.....36
 Consistency with BPTC and the “Best Efforts” Approach37
 Summary.....42
California Water Code Sections 13141 and 13241.....44
California Water Code Section 13263.....46

Overview

This attachment to Waste Discharge Requirements General Order for Growers within the Eastern San Joaquin River Watershed that are Members of the Third-Party group, Order R5-2012-0116 (referred to as the “Order”) is intended to provide information regarding the rationale for the Order, general information on surface and groundwater monitoring that has been conducted, and a discussion of this Order’s elements that meet required state policy.

Introduction

There are numerous irrigated agricultural operations within the boundaries of the Central Valley Water Board on over 7 million acres. Common to all types of these operations is the use of water to sustain crops. Depending on irrigation method, water use, geography, geology, climate, and the constituents (e.g., nutrients, pesticides, pathogens) present or used at a site, water discharged from the site may carry these constituents as waste off site and into groundwater or surface waters.

The Central Valley Regional Water Quality Control Board Irrigated Lands Regulatory Program (ILRP) was initiated in 2003 with the adoption of a conditional waiver of WDRs for discharges from irrigated lands. The 2003 conditional waiver was renewed in 2006. The conditional waiver’s requirements are designed to reduce wastes discharged from irrigated agricultural sites (e.g., tailwater, runoff from fields, subsurface drains) to Central Valley surface waters ([Central Valley Water Board 2006](#)).

In addition to providing conditions, or requirements, for discharge of waste from irrigated agricultural lands to surface waters, the Central Valley Water Board’s conditional waiver included direction to board staff to develop an environmental impact report for a long-term ILRP that would protect waters of the state (groundwater and surface water) from discharges of waste from irrigated lands. Although the requirements of the conditional waiver are aimed to protect surface water bodies, the directive to develop a long-term ILRP and environmental impact report is not as limited, as waters of the State include ground and surface waters within the State of California ([CWC](#), Section 13050[e]).

The Central Valley Water Board completed an [Existing Conditions Report](#) (ECR) for Central Valley irrigated agricultural operations in December 2008. The ECR was developed to establish baseline conditions for estimating potential environmental and economic effects of long-term ILRP alternatives in a program environmental impact report (PEIR) and other associated analyses.

In fall 2008, the Central Valley Water Board convened the Long-Term ILRP Stakeholder Advisory Workgroup (Workgroup). The Workgroup included a range of stakeholder interests representing local government, industry, agricultural coalitions, and environmental/environmental justice groups throughout the Central Valley. The main goal of the Workgroup was to provide Central Valley Water Board staff with input on the development of the long-term ILRP. Central Valley Water Board staff and the Workgroup

T
E
N
T
A
T
I
V
E

Table 2. Summary of ILRP Surface Water Monitoring Data for Management Plan Constituents in the Eastern San Joaquin River Watershed, 2004 through 2010

Constituent	No. of sites requiring a management plan	Range of detected levels	Number of exceedances	Trigger limit
<i>Pesticides</i>				
Chlorpyrifos	23	ND ¹ to 3.7 ug/L	90	0.015 ug/L
DDE	1	ND to 0.022 ug/L	4	0.00059 ug/L
Diazinon	1	ND to 0.24 ug/L	3	0.1 ug/L
Diuron	5	ND to 68 ug/L	17	2 ug/L
Simazine	2	ND to 25 ug/L	5	4 ug/L
Thiobencarb	1	ND to 5.8 ug/L	3	Must not be detected (ND)
<i>Toxicity</i>				
Water, <i>Selenastrum</i>	18	1.8% to 100% growth ²	82	<80% Reduction in growth ^{2,3}
Water, <i>Pimephales</i>	3	0% to 100% survival ²	12	<80% Reduction in survival ^{2,3}
Water, <i>Ceriodaphnia</i>	12	0% to 100% survival ²	48	<80% Reduction in survival ^{2,3}
Sediment, <i>Hyaella</i>	13	0% to 100% survival ²	55	<80% Reduction in survival ^{2,3}
<i>Metals (total)</i>				
Arsenic	4	ND to 30 ug/L	31	10 ug/L
Copper	17	0.4 to 120 ug/L	13	Variable ⁴
Lead	11	ND to 24 ug/L	69	Variable ⁴
Molybdenum	1	0.25 to 6.8 ug/L	5 ⁵	Variable ⁴
<i>Nutrients & Salts</i>				
Ammonia	5	ND to 155.4 mg/L	27	Variable ⁶
Nitrate as N	6	ND to 68 mg/L	63	10 mg/L
Total dissolved solids	8	<4 to 2,900 mg/L	126	450 mg/L
Electrical conductivity	12	<1 to 4,798 uS/cm	193	700 uS/cm
<i>Other</i>				
Dissolved oxygen	21	0 to 25.9 mg/L	335	>5 or >7 mg/L
<i>E. coli</i>	27	0 to 2,400 MPN/100mL	340	235 MPN/100mL
pH	15	5.02 to 9.7	81	>8.5 or <6.5

¹ ND = Not detected at measurable levels

² Compared to the control sample

³ And statistically significant

⁴ Hardness-dependent water quality objectives

⁵ This management plan and associated 5 exceedances occurred in 2011

⁶ Water quality objectives are dependent on pH and temperature

Similar to the previous Order (Coalition Group Conditional Waiver), this Order requires the third-party to develop SQMPs for watersheds where there is an exceedance of a water quality objective or trigger limit more than one time in a three year period. SQMPs may also be required where there is a trend of degradation that threatens a beneficial use. SQMPs will only be required for wastes that may be discharged by some or all of irrigated lands in the identified area. SQMPs are the key mechanism under this Order to help ensure that waste discharges from irrigated lands are meeting Surface Water Receiving Water Limitation III.A. The limitations apply immediately unless the Member is implementing the SQMP in accordance with the approved time schedule. The SQMP will include a schedule and milestones for the implementation of management practices (see Appendix MRP-1). The schedule must identify the time needed to identify new management practices necessary to meet the receiving water limitations, as well as a timetable for implementation of identified management practices. The SQMP will include a schedule for implementing practices that are known to be effective in partially or fully protecting

T
E
N
T
A
T
I
V
E

- Self-certified by the Member that the plan adheres to a site-specific recommendation from the Natural Resources Conservation Service (NRCS) or the University of California Cooperative Extension. The Member must retain written documentation of the recommendation provided; or
- Certified by a nitrogen management plan specialist as defined in Attachment E of this Order. Such specialists include Professional Soil Scientists, Professional Agronomists, Crop Advisors¹⁴ certified by the American Society of Agronomy, or Technical Service Providers certified in nutrient management in California by the National Resource Conservation Service (NRCS).
- Certified in an alternative manner approved by the Executive Officer. Such approval will be provided based on the Executive Officer's determination that the alternative method for preparing the nitrogen management plan meets the objectives and requirements of this Order.

The Order requires nitrogen management reporting (nitrogen management plan summary reports) for Members in high vulnerability groundwater areas. The first nitrogen management plan summary report must be submitted one year after the first nitrogen management plan must be developed. The nitrogen management plan summary report provides information based on what was actually done the previous crop year, while the plan indicates what is planned for the upcoming crop year. Therefore, the first summary report is due the year following the implementation of the first nitrogen management plan. This reporting will provide the third-party and the Central Valley Water Board with information regarding individual Member implementation of the Order's requirements. Without this information, the board would rely primarily on groundwater monitoring to determine compliance with water quality objectives. Groundwater monitoring alone would not provide a real-time indication as to whether all Members are managing nutrients to protect groundwater. Improved nitrogen management may take place relatively quickly, although it may take many years before broad trends in nitrate reduction in groundwater may be measured. Nitrogen management reporting will provide assurance that Members are managing nutrients to protect groundwater quality while trend data are collected.

Spatial Resolution of Nitrogen Management Plan and Farm Evaluation Information

The Order requires reporting to the Central Valley Water Board of nitrogen management information and management practices identified through the farm evaluation. These data are required to be associated with the township (36 square mile area) where the farm is located. The spatial resolution by township provides a common unit that should facilitate analysis of data and comparisons between different areas.

~~Although the~~The nitrogen management data collected by the third-party from individual Members will be ~~reported to the board, those data will only be associated with~~ aggregated by the township where the enrolled parcel is located and will not be associated with the Member or their enrolled parcel. For example, the third-party may have information submitted for 180 different parcels in a given township. ~~The board would receive 180 different data records for that township, but the individual data records would not be associated with a specific parcel or Member.~~ At a minimum, the board would receive a statistical summary of those 180 data records describing the range, percentiles (10th, 25th, 50th, 75th, 90th), and any outliers for similar soil conditions and similar crops in that township. A box and whisker plot or equivalent tabular or graphical presentation of the data approved by the Executive Officer may be used. Based on this analysis, the Central Valley Water Board intends to work with the third-party to ensure that those Members who are not meeting the nitrogen management performance standards identified in the Order improve their practices. As part of its annual review of the monitoring report submitted by the third-party, the board will evaluate the effectiveness of third-party outreach efforts and trends associated with nitrogen management. The board intends to request information from the third-party for those Members who, based on the board's evaluation of available information, do not appear to

¹⁴ Should the California Department of Food and Agriculture and the California Certified Crop Adviser's establish a specific nitrogen management certification, any Certified Crop Adviser who certifies a nitrogen management plan must have a nitrogen management certification.

T
E
N
T
A
T
I
V
E

be meeting nitrogen management performance standards. The reporting of nitrogen management data may be adjusted based on the outcomes of the efforts of the State Water Resources Control Board's Expert Panel and the California Department of Food and Agriculture's Nitrogen Tracking and Reporting System Task Force (see Finding 47 and the State Water Board's Report to the Legislature¹⁵).

In order to determine whether growers in a given township are improving their practices, the third-party will need to assess the data and evaluate trends. The third-party's assessment and evaluation, along with the data used to make the evaluation, will be provided in the third-party's annual monitoring report. Since a report on management practice information and nitrogen management summary reports will be provided annually, the board will be able to determine ~~whether~~what the trends are ~~positive, if any~~. If the data suggest that growers are not improving their practices, the Executive Officer can require the third-party to submit the management practice or nitrogen management plan summary information for individual Members.

Sediment and Erosion Control Plans

The Order requires that Members with the potential to cause erosion and discharge sediment that may degrade surface waters prepare a sediment and erosion control plan. Control of sediment discharge will work to achieve water quality objectives associated with sediment and also water quality objectives associated with sediment bound materials such as pesticides. To ensure that water quality is being protected, this Order requires that sediment and erosion control plans be prepared in one of the following ways:

- The sediment and erosion control plan must adhere to the site-specific recommendation from the Natural Resources Conservation Service (NRCS), NRCS technical service provider, the University of California Cooperative Extension, the local Resource Conservation District; or conform to a local county ordinance applicable to erosion and sediment control on agricultural lands. The Member must retain written documentation of the recommendation provided and certify that they are implementing the recommendation; or
- The plan must be prepared and self-certified by the Member, who has completed a training program that the Executive Officer concurs provides necessary training for sediment and erosion control plan development; or
- The plan must be written, amended, and certified by a qualified sediment and erosion control plan developer possessing one of the registrations shown in Table 3 below; or
- The plan must be prepared and certified in an alternative manner approved by the Executive Officer. Such approval will be provided based on the Executive Officer's determination that the alternative method for preparing the plan meets the objectives and requirements of this Order.

Table 3. Qualified Sediment and Erosion Control Plan Developers

Title/Certification	Certifier
Professional Civil Engineer	State of California
Professional Geologist or Engineering Geologist	State of California
Landscape Architect	State of California
Professional Hydrologist	American Institute of Hydrology
Certified Professional in Erosion and Sediment Control TM (CPESC)	Enviro Cert International Inc.

¹⁵ State Water Board Resources Control Board. 2013. Report to the Legislature, Recommendations Addressing Nitrate in Groundwater <http://www.swrcb.ca.gov/water_issues/programs/nitrate_project/docs/nitrate_rpt.pdf>

T
E
N
T
A
T
I
V
E

must still identify the lessee, if the landowner is not also the farmer. This requirement is necessary to avoid a situation in which multiple parcels of less than 60 acres are farmed by the same farming operation, but are incorrectly identified as associated with “small farming operations” based on the individual landowners being the Members rather than the farm operator.

Technical Reports

The surface water and trend groundwater quality monitoring under the Order is regional in nature instead of individual field discharge monitoring. The benefits of regional monitoring include the ability to determine whether water bodies accepting discharges from numerous irrigated lands are meeting water quality objectives. Regional monitoring also allows the Central Valley Water Board to determine, at the regional level, whether practices are protective of water quality. There are limitations to regional monitoring when trying to determine possible sources of water quality problems.

Therefore, through the Management Practices Evaluation Program and the Surface Water Quality Management Plans and Groundwater Quality Management Plans, the third-party must evaluate the effectiveness of management practices in protecting water quality. In addition, Members must report the practices they are implementing to protect water quality. Through the evaluations and studies conducted by the third-party, the reporting of practices by the Members, and the board’s compliance and enforcement activities, the board will be able to determine whether a Member is complying with the Order.

An effective method of determining compliance with water quality objectives is water quality monitoring at the individual level. Individual monitoring may also be used to help determine sources of water quality problems. Individual monitoring of waste discharges is required under many other Water Board programs. Examples of such programs include regulation of wastewater treatment plants and the Central Valley Water Board’s Dairy Program.¹⁷ The costs of individual monitoring would be much higher than regional surface and groundwater quality monitoring required under the Order. Regional monitoring provides a general measure of compliance over a large area, reducing the number of samples collected.

This Order requires the third-party to provide technical reports. These reports may include special studies at the direction of the Executive Officer. The Executive Officer may require special studies where regional monitoring is ineffective in determining potential sources of water quality problems or to identify whether management practices are effective. Special studies help ensure that the potential information gaps described above under the Order’s regional monitoring requirements may be filled through targeted technical reports, instead of more costly individual monitoring programs.

Approach to Implementation and Compliance and Enforcement

The board has been implementing the Irrigated Lands Regulatory Program since 2003. The implementation of the program has included compliance and enforcement activities to ensure growers have the proper regulatory coverage and are in compliance with the applicable board orders. The following section describes the state-wide policy followed by the board, as well as how the board intends to implement and enforce the Order.

The State Water Board’s Water Quality Enforcement Policy (Enforcement Policy) defines an enforcement process that addresses water quality in an efficient, effective, and consistent manner¹⁸. A variety of

¹⁷ The dairy program requires individual monitoring of surface water discharges and allows for a “representative” groundwater monitoring in lieu of individual groundwater monitoring.

¹⁸ State Water Resources Control Board. 2010. Water Quality Enforcement Policy. <http://www.swrcb.ca.gov/water_issues/programs/enforcement/docs/enf_policy_final111709.pdf>

T
E
N
T
A
T
I
V
E

enforcement tools are available in response to noncompliance. The Enforcement Policy endorses the progressive enforcement approach which includes an escalating series of actions from informal to formal enforcement. Informal enforcement actions are any enforcement taken by staff that is not defined in statute or regulation, such as oral, written, or electronic communication concerning violations. The purpose of informal enforcement is to quickly bring an actual, threatened, or potential violation to the discharger's attention and to give the discharger an opportunity to return to compliance as soon as possible. Formal enforcement includes statutorily based actions that may be taken in place of, or in addition to, informal enforcement. Formal enforcement is recommended as a first response to more significant violations, such as the highest priority violations, chronic violations, and/or threatened violations. There are multiple options for formal enforcement, including Administrative Civil Liabilities (ACLs) imposed by a Regional Water Board or the State Water Board. A 30-day public comment period is required prior to the settlement or imposition of any ACL and prior to settlement of any judicial civil liabilities.

Compliance/Enforcement Related to Grower Participation

To facilitate grower participation in the Irrigated Lands Regulatory Program (ILRP) under the Conditional Waiver, the Central Valley Water Board staff engaged in outreach and followed the progressive enforcement series of actions. For example, staff had sent outreach postcards informing non-participating landowners who potentially require coverage under the ILRP. Water Code Section 13267 Orders for technical reports had been issued to landowners who first received an outreach postcard and did not respond. Landowners were required to respond to postcards or 13267 Orders by obtaining the required regulatory coverage, or claiming an exemption from the ILRP requirements. The Central Valley Water Board staff routinely conducted inspections to verify landowner exemption claims; occasionally the outcome of inspections led to an enforcement action for failure to obtain appropriate regulatory coverage.

Upon the adoption of this original Order in December 2012, staff sent letters to thousands of landowners who may now require regulatory coverage, since this Order addresses discharge to both groundwater and surface water. Parcels that potentially need regulatory coverage are identified from readily available information sources, such as county tax assessor records; aerial photography; and the California Department of Conservation's Farmland Mapping and Monitoring Program. The staff also conducts inspections in the field to verify that parcels have an irrigated agricultural operation. The Executive Officer sends Water Code Section 13260 Directives when inspections verify that parcels require coverage under the ILRP, when growers who used to be third-party members are no longer listed on the annual membership lists, or when growers who received Executive Officer approval to join a third-party have not done so. The 13260 Directives require growers to enroll or re-instate their membership with a third-party, obtain coverage for their discharges under other applicable general waste requirements, or submit a Report of Waste Discharge to the Central Valley Water Board. As the highest level of informal enforcement, Notices of Violation (NOV's) are sent to growers who fail to respond to Orders and Directives, and direct the recipients obtain the proper regulatory coverage for their waste discharges. The board intends to issue Administrative Civil Liability Complaints to those growers who do not respond to the NOV. In addition, the board may enroll those growers under the general WDRs for dischargers not participating in a third-party group (R5-2013-0100), after such growers are provided an opportunity for a hearing.

Compliance/Enforcement Related to Water Quality Violations

The board intends to respond promptly to complaints and conduct field inspections on a routine basis to identify potential water quality violations. Complaints will generally result from local residents contacting the board based on their observations of sediment plumes, fish kills, or odor problems. The board will generally contact and coordinate with the third-party, the California Department of Fish and Wildlife, and the local county agricultural commissioner depending on the nature of the problem.

In addition, the board staff will conduct field inspections of individual grower's operations to determine whether practices protective of groundwater are in place. Such practices include backflow prevention devices; well head protection; and those practices found protective through the Management Practices Evaluation Program. The field inspections will also include a review of whether implemented practices

T
E
N
T
A
T
I
V
E

are protective of surface water, and may include sampling of runoff. The informal and formal enforcement process described above will be used should any violations of the Order be identified through field inspections.

Compliance/Enforcement Related to Information Collected

As a part of field inspections, and with the consent of the Member, owner or authorized representative as required by applicable laws, staff may also review information and farm plans prepared by Members. The Executive Officer will request information, as necessary, from Members and the third-party to audit the quality and accuracy of information being submitted. The Executive Officer will regularly report to the board on the results of any audits of the information reported by the third-party, the outcome of any field verification inspections of information submitted by the Members, and make recommendations regarding changes to the reporting requirements and the information submittal process, if needed.

The findings of this Order provide a further description of the enforcement priorities and process for addressing violations.

Reports and Plans

This Order is structured such that the Executive Officer is to make determinations regarding the adequacy of reports and information provided by the Dischargers and allows the Executive Officer to approve such reports. Staff will post all All plans and reports required for approval by the Executive Officer will be posted on the board's website upon approval. In addition, this Order identifies specific reports and Executive Officer's decisions that must be posted for public comment and review. It is the right of any interested person to request the Central Valley Water Board to review any of the aforementioned Executive Officer decisions.

Water Quality Objectives

Surface water and groundwater receiving water limitations in section III of the Order specify that waste discharge from irrigated lands may not cause or contribute to an exceedance of water quality objectives in surface water or underlying groundwater, unreasonably affect beneficial uses, or cause a condition of pollution or nuisance.

Water quality objectives that apply to surface water are described in the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins* (Basin Plan). Applicable water quality objectives include, but are not limited to, (1) the numeric objectives, including the bacteria objective, the chemical constituents objective (includes listed chemicals and state drinking water standards, i.e., maximum contaminant levels (MCLs) promulgated in Title 22 California Code of Regulations (CCR) Division 4, Chapter 15 sections 64431 and 64444 that are applicable through the Basin Plan to waters designated as municipal and domestic supply), dissolved oxygen objectives, pH objectives, the salinity objectives, and the turbidity objectives; and (2) the narrative objectives, including the biostimulatory substances objective, the chemical constituents objective, and the toxicity objective. The Basin Plan also contains numeric water quality objectives that apply to specifically identified water bodies, such as specific temperature objectives. Federal water quality criteria that apply to surface water are contained in federal regulations referred to as the California Toxics Rule and the National Toxics Rule. See 40 CFR sections 131.36 and 131.38.

Water quality objectives that apply to groundwater include, but are not limited to, (1) numeric objectives, including the bacteria objective and the chemical constituents objective (includes state MCLs promulgated in Title 22 CCR Division 4, Chapter 15 section 64431 and 64444 and are applicable through the Basin Plan to municipal and domestic supply), and (2) narrative objectives including the chemical constituents, taste and odor, and toxicity objectives.

T
E
N
T
A
T
I
V
E

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

ORDER R5-2012-0116

ATTACHMENT B TO ORDER R5-2012-0116

MONITORING AND REPORTING PROGRAM (as revised on XX Oct 2013)

WASTE DISCHARGE REQUIREMENTS GENERAL ORDER
FOR
GROWERS WITHIN THE EASTERN SAN JOAQUIN RIVER WATERSHED
THAT ARE MEMBERS OF THE THIRD-PARTY GROUP

TABLE OF CONTENTS

<u>I. Introduction</u>	<u>2</u>
<u>II. General Provisions</u>	<u>2</u>
<u>III. Surface Water Quality Monitoring Requirements</u>	<u>3</u>
<u>A. Surface Water Monitoring Sites</u>	<u>3</u>
<u>1. Core Site Monitoring</u>	<u>3</u>
<u>2. Represented Site Monitoring</u>	<u>3</u>
<u>3. Special Project Sites</u>	<u>4</u>
<u>B. Monitoring Locations</u>	<u>4</u>
<u>C. Monitoring Requirements and Schedule</u>	<u>5</u>
<u>1. Surface Water Monitoring</u>	<u>5</u>
<u>2. Monitoring Schedule and Frequency</u>	<u>6</u>
<u>3. Monitoring Parameters</u>	<u>6</u>
<u>4. Toxicity Testing</u>	<u>9</u>
<u>5. Special Project Monitoring</u>	<u>10</u>
<u>D. Surface Water Data Management Requirements</u>	<u>11</u>
<u>IV. Groundwater Quality Monitoring and Management Practice Assessment, and Evaluation Requirements</u>	<u>12</u>
<u>A. Groundwater Quality Assessment Report</u>	<u>12</u>
<u>B. Management Practice Evaluation Program</u>	<u>15</u>
<u>C. Groundwater Quality Trend Monitoring</u>	<u>16</u>
<u>D. Management Practices Evaluation Workplan</u>	<u>17</u>
<u>E. Trend Monitoring Workplan</u>	<u>18</u>
<u>V. Third-Party Reporting Requirements</u>	<u>19</u>
<u>A. Quarterly Submittals of Surface Water Monitoring Results</u>	<u>19</u>
<u>B. Annual Groundwater Monitoring Results</u>	<u>21</u>
<u>C. Monitoring Report</u>	<u>21</u>
<u>D. Surface Water Exceedance Reports</u>	<u>24</u>
<u>VI. Group Option - Templates</u>	<u>24</u>
<u>A. Farm Evaluation Template</u>	<u>24</u>
<u>B. Nitrogen Management Plan Template</u>	<u>25</u>
<u>C. Sediment and Erosion Control Plan Template</u>	<u>25</u>
<u>VII. Sediment Discharge and Erosion Assessment Report</u>	<u>26</u>
<u>VIII. Water Quality Triggers for Development of Management Plans</u>	<u>26</u>
<u>IX. Quality Assurance Project Plan (QAPP)</u>	<u>26</u>

Appendix MRP-1: Third-Party Management Plan Requirements

Appendix MRP-2: Monitoring Well Installation and Sampling Plan and Completion Report

T
E
N
T
A
T
I
V
E

surface water quality management plan (SQMP) actions associated with the Core site must take place in these watershed areas (represented drainages without monitoring sites).

3. Special Project Sites

In addition to Core and Represented sites, the third-party may designate Special Project sites as needed in a surface water quality management plan (SQMP) to evaluate commodity or management practice-specific effects on identified water quality problems,⁵ or to evaluate sources of identified water quality problems.

The Executive Officer may require the third-party to conduct local or site-specific monitoring to address a parameter associated with a management plan or TMDL (see section III.C.5. below). Core sites and Represented sites located in areas where management plans are required will also be considered Special Project sites for the parameter(s) subject to the management plan(s).

B. Monitoring Locations

The location of Core and monitored Represented sites are identified in Table 1 below. The third-party may submit written requests (including technical justification) for removal/addition of monitoring sites for approval by the Executive Officer.

Table 1. Third-party Core and Monitored Represented* Sites By Zone

ID	Zone	Site Type	Site Name	Station Code	Latitude	Longitude
B	1	Core	Dry Creek @ Wellsford Rd	535XDCAWR	37.6602	-120.8743
	1	Core	TBD ⁶			
F	2	Core	Prairie Flower Drain @ Crows Landing Rd	535XPFDCL	37.4422	-121.0024
	2	Core	TBD			
D	3	Core	Highline Canal @ Hwy 99	535XHCHNN	37.4153	-120.7557
	3	Core	TBD			
E	4	Core	Merced River @ Santa Fe	535XMRSFD	37.4271	-120.6721
	4	Core	TBD			
C	5	Core	Duck Slough @ Gurr Rd	535XDSAGR	37.2142	-120.5596
	5	Core	TBD			
A	6	Core	Cottonwood Creek @ Rd 20	545XCCART	36.8686	-120.1818
	6	Core	TBD			
1	6	Represented	Ash Slough @ Ave 21	545XASAAT	37.05450	-120.41580
2	4	Represented	Bear Creek @ Kibby Rd	535XBCAKR	37.31280	-120.41380
3	6	Represented	Berenda Slough along Ave 18 1/2	545XBSAAE	37.01820	-120.32650
4	4	Represented	Black Rascal Creek @ Yosemite Rd	535BRCAYR	37.33210	-120.39470
5	4	Represented	Burnett Lateral @ 28 Mile Rd	535BLATMR	37.80343	-120.83992

⁵ "Water quality problem" is defined in Attachment E.

⁶ "To be determined" (TBD) monitoring sites will be established by the third-party and the Water Board.

T
E
N
T
A
T
I
V
E

Table 1. Third-party Core and Monitored Represented* Sites By Zone

ID	Zone	Site Type	Site Name	Station Code	Latitude	Longitude
6	4	Represented	Canal Creek @ West Bellevue Rd	535CCAWBR	37.36075	-120.54941
7	5	Represented	Deadman Creek @ Gurr Rd	535XDCAGR	37.19360	-120.56120
8	5	Represented	Deadman Creek @ Hwy 59	535DMCAHF	37.19810	-120.48690
9	6	Represented	Dry Creek @ Rd 18	545XDCARE	36.98180	-120.21950
11	2	Represented	Hatch Drain @ Tuolumne Rd	535XHDATR	37.51490	-121.01220
12	3	Represented	Highline Canal @ Lombardy Ave	535XHCHNN	37.45560	-120.72070
13	2	Represented	Hilmar Drain @ Central Ave	535XHDACA	37.39060	-120.95820
14	4	Represented	Howard Lateral @ Hwy 140	535XHLAHO	37.30790	-120.78200
15	2	Represented	Lateral 2 1/2 near Keyes Rd	535LTHNKR	37.54780	-121.09274
16	2	Represented	Lateral 5 1/2 @ South Blaker Rd	535LFHASB	37.45823	-120.96726
17	2	Represented	Lateral 6 and 7 @ Central Ave	535LSSACA	37.39779	-120.95971
18	2	Represented	Levee Drain @ Carpenter Rd	535XLDACR	37.47903	-121.03012
19	4	Represented	Livingston Drain @ Robin Ave	535XLDARA	37.31690	-120.74230
20	2	Represented	Lower Stevinson @ Faith Home Rd	535LSAFHR	37.37238	-120.92318
21	4	Represented	McCoy Lateral @ Hwy 140	535XMLAHO	37.30945	-120.78759
22	5	Represented	Miles Creek @ Reilly Rd	535XMCARR	37.25820	-120.47550
35	1	Represented	Mootz Drain Downstream of Langworth Pond	535XMDDLDP	37.70551	-120.89438
24	3	Represented	Mustang Creek @ East Ave	535XMCAEA	37.49180	-120.68390
26	1	Represented	Rodden Creek @ Rodden Rd	535XRCARD	37.79042	-120.80790
27	4	Represented	Silva Drain @ Meadow Dr	535XSDAMD	37.42910	-120.62610
30	2	Represented	Unnamed Drain @ Hogin Rd	535XUDAHR	37.43129	-120.99380
31	4	Represented	Unnamed Drain @ Hwy 140	535XUDAHO	37.31331	-120.89217
33	2	Represented	Westport Drain @ Vivian Rd	535WDAVR	37.53682	-121.04861

*Monitored Represented sites in the table are not an exhaustive list; the Executive Officer may require the third-party to add monitoring sites for represented water bodies as necessary to meet the requirements of the Order.

C. Monitoring Requirements and Schedule

1. Surface Water Monitoring

Surface water monitoring must provide sufficient data to describe irrigated agriculture's impacts on surface water quality and to determine whether existing or newly implemented management practices comply with the receiving water limitations of the Order. Surface water monitoring shall include a comprehensive suite of constituents (also referred to as "parameters") monitored periodically in a manner that allows for an evaluation of the condition of a water body and determination of whether irrigated agriculture operations in the Eastern San Joaquin Watershed are causing or contributing to any surface water quality problems.

T
E
N
T
A
T
I
V
E

- The GAR shall discuss pertinent geologic and hydrogeologic information for the third-party area(s) and utilize GIS mapping applications, graphics, and tables, as appropriate, in order to clearly convey pertinent data, support data analysis, and show results.
4. *Groundwater vulnerability designations.* The GAR shall designate high/low vulnerability areas for groundwater in consideration of high and low vulnerability definitions provided in Attachment E of the Order. Vulnerability designations may be refined/ updated periodically during the Monitoring Report process. The third-party must review and confirm or modify vulnerability designations every five (5) years after Executive Officer approval of the GAR. The vulnerability designations will be made by the third-party using a combination of physical properties (soil type, depth to groundwater, known agricultural impacts to beneficial uses, etc.) and management practices (irrigation method, crop type, nitrogen application and removal rates, etc.). The third-party shall provide the rationale for proposed vulnerability determinations. The Executive Officer will make the final determination regarding vulnerability designations.

If the GAR is not submitted to the board by the required deadline, the Executive Officer will designate default high/low vulnerability groundwater areas using such information as 1) those areas that have been identified by the State Water Board as Hydrogeologically Vulnerable Areas, 2) California Department of Pesticide Regulation groundwater protection areas, and 3) areas with exceedances of water quality objectives for which irrigated agriculture waste discharges may cause or contribute to the exceedance.

5. *Prioritization of high vulnerability groundwater areas.* The third-party may prioritize the areas designated as high vulnerability areas to comply with the requirements of this Order, including conducting monitoring programs and carrying out required studies. When establishing relative priorities for high vulnerability areas, the third party may consider, but not be limited to, the following:
- Identified exceedances of water quality objectives for which irrigated agriculture waste discharges are the cause, or a contributing source.
 - The proximity of the high vulnerability area to areas contributing recharge to urban and rural communities where groundwater serves as a significant source of supply.
 - Existing field or operational practices identified to be associated with irrigated agriculture waste discharges that are the cause, or a contributing source.
 - The largest acreage commodity types comprising up to at least 80% of the irrigated agricultural acreage in the high vulnerability areas and the irrigation and fertilization practices employed by these commodities.
 - Legacy or ambient conditions of the groundwater.
 - Groundwater basins currently or proposed to be under review by CV-SALTS.
 - Identified constituents of concern, e.g., relative toxicity, mobility.

Additional information such as models, studies, and information collected as part of this Order may also be considered in designating and prioritizing vulnerability areas for groundwater. Such data includes, but is not limited to, 1) those areas that have been identified by the State Water Board as Hydrogeologically Vulnerable Areas, 2) California Department of Pesticide Regulation groundwater protection areas, and 3) areas with exceedances of water quality objectives for which irrigated agriculture waste discharges may cause or contribute to the exceedance.

The Executive Officer will review and may approve or require changes to any third-party proposed high/low vulnerability areas and the proposed priority ranking. The vulnerability areas, or any changes thereto, shall not be effective until third-party receipt of written approval by the Executive Officer. [An interested person may seek review by the Central Valley Water Board of](#)

the Executive Officer's decision on the designation of high and low vulnerability areas associated with approval of the Groundwater Quality Assessment Report.

B. Management Practice Evaluation Program

The goal of the Management Practice Evaluation Program (MPEP) is to determine the effects, if any, irrigated agricultural practices¹¹ have on groundwater quality. A MPEP is required in high vulnerability groundwater areas and must address the constituents of concern described in the GAR. This section provides the goals, objectives, and minimum reporting requirements for the MPEP. As specified in section IV.D of this MRP, the third-party is required to develop a workplan that will describe the methods that will be utilized to achieve the MPEP requirements.

1. *Objectives.* The objectives of the MPEP are to:

- Identify whether existing site-specific and/or commodity-specific management practices are protective of groundwater quality within high vulnerability groundwater areas,
- Determine if newly implemented management practices are improving or may result in improving groundwater quality.
- Develop an estimate of the effect of Members' discharges of constituents of concern on groundwater quality in high vulnerability areas. A mass balance and conceptual model of the transport, storage, and degradation/chemical transformation mechanisms for the constituents of concern, or equivalent method approved by the Executive Officer, must be provided.
- Utilize the results of evaluated management practices to determine whether practices implemented at represented Member farms (i.e., those not specifically evaluated, but having similar site conditions), need to be improved.

Given the wide range of management practices/commodities that are used within the third-party's boundaries, it is anticipated that the third-party will rank or prioritize its high vulnerability areas and commodities, and present a phased approach to implement the MPEP.

2. *Implementation.* Since management practices evaluation may transcend watershed or third-party boundaries, this Order allows developing a MPEP on a watershed or regional basis that involves participants in other areas or third-party groups, provided the evaluation studies are conducted in a manner representative of areas to which it will be applied. The MPEP may be conducted in one of the following ways:

- By the third-party,
- by watershed or commodity groups within an area with known groundwater impacts or vulnerability, or
- by watershed or commodity groups that wish to determine the effects of regional or commodity driven management practices.

A master schedule describing the rank or priority for the investigation(s) of the high vulnerability areas (or commodities within these areas) to be examined under the MPEP shall be prepared and submitted to the Executive Officer as detailed in the Management Practices Evaluation Program Workplan section IV.D below.

¹¹ In evaluating management practices, the third-party is expected to focus on those practices that are most relevant to the Members' groundwater quality protection efforts.

available monitoring data that meet program quality assurance requirements to determine deficiencies in monitoring for discharges from irrigated agricultural lands and whether additional sampling locations are needed. If deficiencies are identified, the third-party must propose a schedule for additional monitoring or source studies. Upon notification from the Executive Officer, the third-party must monitor any parameter in a watershed that lacks sufficient monitoring data (i.e., a data gap should be filled to assess irrigated agriculture's effects on water quality).

The third-party should incorporate pesticide use information, as needed, to assist in its data evaluation. Wherever possible, the third-party should utilize tables or graphs that illustrate and summarize the data evaluation.

Report Component (17) – Summary of Reported Nitrogen Data

The third-party shall aggregate information from Members' Nitrogen Management Plan Summary Reports to characterize the input, uptake, and loss of nitrogen fertilizer applications by specific crops in the Eastern San Joaquin River Watershed. The third-party's assessment of Nitrogen Management Plan information must include, at a minimum, comparisons of farms with the same crops, similar soil conditions, and similar practices (e.g., irrigation management). This information will include a At a minimum, the statistical summary of nitrogen consumption ratios by crop or other equivalent reporting units and the estimated crop nitrogen needs for the different crop types – and soil conditions will describe the range, percentiles (10th, 25th, 50th, 75th, 90th) and any outliers. A box and whisker plot or equivalent tabular or graphical presentation of the data approved by the Executive Officer may be used. The nitrogen consumption ratio is the ratio of total nitrogen available for crop uptake (from sources including, but not limited to, fertilizers, manures, composts, nitrates in irrigation supply water and soil) to the estimated crop consumption of nitrogen. The summary of nitrogen management data must include a quality assessment of the collected information by township (e.g. missing data, potentially incorrect/inaccurate reporting), and a description of corrective actions to be taken regarding any deficiencies in the quality of data submitted, if such deficiencies were identified. The third-party will also provide an aggregate of the data submitted by their Members that were used to develop this summary in an electronic format, compatible with ArcGIS, identified to at least the township level.¹³

Report Component (18) – Summary of Management Practice Information

The third-party will aggregate and summarize information collected from Farm Evaluations.¹⁴ The summary of management practice data must include a quality assessment of the collected information by township (e.g. missing data, potentially incorrect/inaccurate reporting), and a description of corrective actions to be taken regarding any deficiencies in the quality of data submitted, if such deficiencies were identified. In addition to summarizing and aggregating the information collected, the third party will provide the individual data submitted by their Members records used to develop this summary in an electronic format, compatible with ArcGIS, identified to at least the township level.¹³

Report Component (19) – Mitigation Monitoring

As part of the Monitoring Report, the third-party shall report on the CEQA mitigation measures reported by Members to meet the provisions of the Order and any mitigation measures the third-party has implemented on behalf of Members. The third-party is not responsible for submitting information that Members do not send them directly by the 1 March deadline (see section VII.E of the Order for individual Discharger mitigation monitoring requirements). The Mitigation Monitoring Report shall include information on the implementation of CEQA mitigation measures (mitigation

¹³ The Member and their associated parcel need not be identified.

¹⁴ Note that the evaluation of the reported management practices information is discussed in Appendix MRP-1 and will be part of the annual Management Plan Progress Report.

Appendix MRP-2

**Monitoring Well Installation and Sampling Plan
and
Monitoring Well Installation Completion Report**

I. Introduction

The provisions of Appendix MRP-2 are set out pursuant to the Central Valley Water Board's authority under California Water Code (CWC) section 13267. The purpose and requirements of the Management Practice Evaluation Program (MPEP) isare set forth in Monitoring and Reporting Program (MRP) R5-2012-0116.

Implementation of the RGMP requires that the third-party develop and submit a Monitoring Well Installation and Sampling Plan (MWISP) to the Executive Officer for approval prior to installation of monitoring wells. Stipulations and required elements of the MWISP are presented in section II below.

Upon completion of any monitoring well network, the third-party shall submit to the Central Valley Water Board a Monitoring Well Installation Completion Report (MWICR) which describes the field activities performed during that phase of the work. Required elements to be included in the MWICR are presented in section III below.

II. Monitoring Well Installation and Sampling Plan

Prior to installation of groundwater monitoring wells, an MWISP and schedule prepared by, or under the direct supervision of, and certified by, a California registered civil engineer or a California registered geologist with experience in hydrogeology shall be submitted to the Central Valley Water Board for Executive Officer approval. If the third-party has chosen to rank or prioritize its high vulnerability areas, the initial MWISP must present an overview and justification for the phased approach. Separate MWISPs showing the proposed monitoring well locations are required prior to implementation of each phase (alternatively, the third-party may prepare a master MWISP covering all of the proposed phases of well installation). Installation of monitoring wells shall not begin until the Executive Officer notifies the third-party in writing that the MWISP is acceptable. The MWISP or an MWISP for the initial phase if the third-party has chosen to employ a phased approach must be submitted within 180 days after Executive Officer approval of the Management Practices Evaluation Workplan (see section IV of Monitoring and Reporting Program Order R5-2012-0116, "MRP").

A. Stipulations

1. All monitoring wells shall be constructed in a manner that maintains the integrity of the monitoring well borehole and prevents the well (including the annular space outside of the well casing) from acting as a conduit for waste/contaminant transport. Each monitoring well shall be appropriately designed and constructed to enable collection of representative samples of the first encountered groundwater.

2. Where applicable, the third-party shall follow state, county or local agency standards with respect to water wells and groundwater quality when constructing new wells, modifying existing wells, or destroying wells. Absent such standards, at a minimum, the third-party shall follow the standards and guidelines described in the California Department of Water Resources' *Water Well Standards (Bulletins 74-81 & 74-90 combined)*. More stringent practices shall be implemented if needed to prevent the well from acting as a conduit for the vertical migration of waste constituents.
3. The horizontal and vertical position of each monitoring well shall be determined by a registered land surveyor or other qualified professional. The horizontal position of each monitoring well shall be measured with one-foot lateral accuracy using the North American Datum 1983 (NAD83 datum). The vertical elevations of each monitoring well, at the point where depth to groundwater shall be measured to an absolute accuracy of at least 0.5 feet and a relative accuracy between monitoring wells of 0.01 feet referenced to the North American Vertical Datum 1988 (NAVD88 datum).
4. Once the groundwater monitoring network is installed pursuant to an approved MWISP, the third-party shall sample monitoring wells for the constituents and at the frequencies as specified in the approved RGMPEP. Groundwater monitoring shall include monitoring during periods of the expected highest and lowest annual water table levels and be of sufficient frequency to allow for evaluation of any seasonal variations.
5. Groundwater samples from monitoring wells shall be collected as specified in an approved MWISP and in accordance with the third-party's approved QAPP.

B. MWISP Required Elements

At a minimum, the MWISP must contain all of the information listed below.

1. General Information:
 - a. Topographic map showing any existing nearby (about 2,000 feet) domestic, irrigation, municipal supply, and known monitoring wells, utilities, surface water bodies, drainage courses and their tributaries/destinations, and other major physical and man-made features, as reasonably known and appropriate.
 - b. Site plan showing proposed well locations, other existing wells, unused and/or abandoned wells, and major physical site structures (such as tailwater retention systems, tile-drainage systems including discharge points, chemigation and/or fertigation tanks, flood control features, irrigation canals, etc.).
 - c. Rationale for the number of proposed monitoring wells, their locations and depths, and identification of anticipated depth to groundwater. This information must include an explanation of how the location, number, and depths of wells proposed will result in the collection of data that can be used to assess groundwater at farms not directly monitored by the MPEP and under a variety of hydrogeologic conditions.
 - d. Local permitting information (as required for drilling, well seals, boring/well abandonment).
 - e. Drilling details, including methods and types of equipment for drilling and soils logging activities. Equipment decontamination procedures (as appropriate) should be described.