

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

ORDER R5-2015-XXXX

WASTE DISCHARGE REQUIREMENTS

FOR  
KERN RIDGE GROWERS, LLC  
AND  
LARRY R. COX AND JOAN W. COX,  
AS TRUSTEES OF THE COX FAMILY TRUST OF 2004  
DIGIORGIO FACILITY  
KERN COUNTY

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

1. On 21 September 2007, Kern Ridge Growers, LLC submitted a Report of Waste Discharge (RWD) that describes wastewater discharge from its new DiGiorgio carrot processing facility (Facility) to land in Arvin. The Facility washes and sorts oranges; and washes, sorts, and processes whole carrots into "baby" carrots. Additional RWDs were submitted on 18 December 2007 and 8 March 2015. The 2015 RWD requested a wastewater discharge flow rate of 180,000 gallons per day (gpd).
2. Kern Ridge Growers, LLC (Discharger) owns and operates the Facility that generates the waste. Kern Ridge Growers, LLC and Larry R. Cox and Joan W. Cox, as Trustees of the Cox Family Trust of 2004, own the land where wastewater from the Facility is applied. Kern Ridge Growers, LLC and Larry R. Cox and Joan W. Cox, as Trustees of the Cox Family Trust of 2004 are responsible for compliance with these Waste Discharge Requirements (WDRs).
3. The Facility is at 14322 DiGiorgio Road in Arvin (Section 3, Township 31 South, Range 29 East, Mount Diablo Base & Meridian) and occupies Assessor's Parcel Numbers (APNs) 189-020-37 and 189-020-38.
4. The Land Application Area (LAA) consists of 80-acres of vineyards at the northeast corner of Panama Road and North Comanche Drive (Section 35, Township 30 South, Range 29 East, Mount Diablo Base & Meridian) and occupies APN 178-360-63, 178-360-64, 178-360-65, and 178-360-66. Kern Ridge Growers, LLC owns APNs 178-360-63, 178-360-64, and 178-360-65. Larry R. Cox and Joan W. Cox, as Trustees of the Cox Family Trust of 2004 own APN 178-360-66.
5. The Facility and the LAA are shown on Attachment A, which is attached hereto and made part of this Order by reference.

### **Existing Facility and Discharge**

6. At the Facility, oranges are washed, polished, and sorted and whole carrots are washed, sorted, and processed into "baby" carrots.
7. The Facility generates three different waste streams. In this document, the waste streams are identified as: (1) Washout Area Wastewater, (2) Process Wastewater, and (3) Defrost Water. The 2015 RWD indicates the Facility generates approximately 150,000 to 190,000 gpd of Washout Area Wastewater and Process Wastewater. The volume of Defrost Water generated is unknown.
8. Washout Area Wastewater is generated during the initial washing and sorting of carrots as they are unloaded from trailers. It is recirculated through a series of above-ground concrete channels that act as a weir system to settle-out solids prior to discharge to two above-ground storage tanks at the LAA.
9. Process Wastewater is wastewater generated from orange washing and polishing, carrot washing and processing, and process equipment cleaning. This wastewater is collected in a 20,000 gallon above ground storage tank at the Facility and recirculated prior to discharge to the two above ground storage tanks at the LAA.
10. Defrost Water is the melted ice that formed on refrigeration equipment (evaporator tubes, coils, or plates) inside the cold storage building. Defrost Water is discharged to an underground storage tank and then pumped to a concrete sump and recirculated as makeup water in overhead spray nozzles on carrots in trailers in the concrete staging area. The water will be pumped to the weir system and mixed with Washout Area Wastewater. Storm water collected on-site is also discharged to the underground storage tank and mixed with Defrost Water.
11. From the above ground storage tanks at the LAA, the commingled wastewater is discharged to the LAA. The Discharger can irrigate the LAA with wastewater only or mix the wastewater with irrigation water from the Arvin-Edison Water Storage District in the irrigation distribution piping. Source water for Facility operations is obtained from an on-site water supply well.
12. Solids (primarily dirt) that are separated from the Washout Area Wastewater are spread to nearby fallow ground owned by the Discharger. Carrot peels are shipped off-site and used as cattle feed.
13. In January 2015, the Discharger began collecting samples of comingled Washout Area Wastewater and Process Wastewater from the two above ground storage tanks at the LAA and measuring the volume of Washout Area Wastewater and Process Wastewater discharged to the two above ground storage tanks at the LAA. During a January 2015 site inspection, Central Valley Water Board staff collected the following

samples: 1) commingled Washout Area Wastewater and Process Wastewater from the two above ground storage tanks at the LAA; 2) Defrost Water and rainfall runoff in an on-site unlined pond (the pond was filled-in and replaced with an underground storage tank after the sample was collected); and 3) source water. Results of the samples collected by the Discharger and staff are summarized in Table 1 below:

**Table 1: Water Quality  
 January through May 2015**

Parameter	Units	Commingled Washout Area Wastewater and Process Wastewater				Water in Unlined Pond		Source Water	
		No. of Samples	Max	Min	Ave	No. of Samples	Conc.	No. of Samples	Conc.
pH	pH Units <sup>(1)</sup>	17	8.0	5.0	--	1	7.7	1	7.3
Total Alkalinity	mg/L <sup>(2)</sup>	5	400	<10	197	1	240	1	220
Bicarbonate	mg/L	4	490	<10	204	1	290	1	260
Carbonate	mg/L	3	<10	<10	<10	1	<1.0	1	<1.0
Hydroxide	mg/L	3	<10	<10	<10	1	<1.0	1	<1.0
Biochemical Oxygen Demand, 5-day	mg/L	19	2,000	150	1,227	1	22	1	<1.0
Chloride	mg/L	5	210	160	176	1	64	1	53
Electrical Conductivity	umhos/cm <sup>(3)</sup>	17	2,100	1,207	1,577	1	1,000	1	930
Total Dissolved Solids	mg/L	18	3,500	710	1,824	1	640	1	580
Fixed Dissolved Solids	mg/L	18	1,400	490	836	1	550	1	500
Volatile Dissolved Solids	mg/L	18	2,400	190	985	1	90	1	80
Nitrate as Nitrogen	mg/L	19	12	<0.5	5.0	1	15	1	13
Nitrite as Nitrogen	mg/L	16	4.0	<0.4	1.7	1	2.7	1	<1.2
Ammonia as Nitrogen	mg/L	15	4	1	1.9	1	--	1	--
Total Kjeldahl Nitrogen	mg/L	19	100	<0.8	29	1	5.4	1	<0.5

Parameter	Units	Commingled Washout Area Wastewater and Process Wastewater				Water in Unlined Pond		Source Water	
		No. of Samples	Max	Min	Ave	No. of Samples	Conc.	No. of Samples	Conc.
Total Nitrogen	mg/L	19	106	<1	34	1	24	1	13
Sulfate	mg/L	5	120	100	112	1	120	1	98
Boron	mg/L	1	0.41	0.41	0.41	1	0.33	1	0.33
Calcium	mg/L	5	240	89	136	1	110	1	98
Copper	ug/L	3	97	58	74	1	--	1	--
Hardness	mg/L	4	710	290	425	1	360	1	310
Iron	mg/L	4	1.6	0.5	1.0	1	0.41	1	0.14
Magnesium	mg/L	5	94	17	37	1	19	1	17
Manganese	mg/L	4	5.3	0.3	1.6	1	0.14	1	<0.05
Potassium	mg/L	5	190	140	160	1	5.7	1	4.1
Sodium	mg/L	5	210	120	148	1	68	1	60
Zinc	ug/L <sup>(4)</sup>	3	260	50	153	1	--	1	--

<sup>(1)</sup> pH units = standard pH units

<sup>(2)</sup> mg/L = milligrams per liter

<sup>(3)</sup> umhos/cm = micromhos per centimeter

<sup>(4)</sup> ug/L = micrograms per liter

14. The total dissolved solids (TDS) concentration of the discharge is greater than the electrical conductivity (EC) or the fixed dissolved solids (FDS), indicating the discharge has a high concentration of volatile dissolved solids, which can be broken down and biologically treated by soil microorganisms in a well-managed land application system, when wastewater is not over applied.
15. The nitrate as nitrogen concentration of the source water is greater than the Maximum Contaminant Level (MCL) of 10 mg/L. This Order requires the Discharger to submit a Wastewater Nutrient Management Plan for wastewater and irrigation water application to the LAA so as to not exacerbate the concentration of nitrate as nitrogen in underlying groundwater.

16. The volume of wastewater generated at the Facility from January through April 2015 is summarized in Table 2 below:

**Table 2: Volume of Wastewater Produced  
Combined Washout Area Wastewater and Process Wastewater**

Month	Maximum (gpd)	Minimum (gpd)	Average (gpd)	Total Volume (gallons)
January 2015	195,000	18,600	106,408	2,766,660
February 2015	215,800	59,400	134,752	3,099,300
March 2015	262,300	66,400	159,000	4,293,000
April 2015	227,000	60,700	162,011	4,374,300

17. The RWD indicates the controlling factor for wastewater discharge to the LAA is the annual nitrogen uptake of 125 pounds per acre per year (lbs/acre/year) for the vineyard, which results in a maximum daily flow rate of 180,000 gpd. However, this flow rate is based on the average of two effluent total nitrogen samples that result in a concentration of 18.5 mg/L. As shown in Table 1 of [Finding 13](#), the average effluent Total Nitrogen concentration of the 19 available effluent samples is 34 mg/L.
18. The water balance provided with the 2015 RWD demonstrates: (1) the irrigation requirements of the LAA are met by rainfall alone during December and January, and (2) the volume of wastewater generated at the Facility is greater than the irrigation requirements of the LAA during October through February.
19. Wastewater generation and discharge to the LAA occurs year round. There is minimal storage available in the above ground concrete weir structures or the above ground storage tanks at the Facility and LAA to store wastewater during wet weather. The 2015 RWD indicates discharging during wet weather is warranted because, "based on field observations and use of the system over the past 8 years, the system adequately handles the flow during this period with no adverse impacts or ponding. It is a reality that additional water beyond the irrigation requirement (ET) be added to prevent the buildup of salts in the soil and therefore additional hydraulic capacity is available beyond the values presented in [the water balance]."
20. The Discharger has reported its standard irrigation practice is to irrigate 20-acre sections of the LAA via flood irrigation over a period of two weeks. Following the two week irrigation cycle, the 20-acre section is allowed to rest for 6 weeks while the three remaining 20-acre sections are irrigated. Based on a flow rate of 180,000 gpd and an average biochemical oxygen demand (BOD) concentration of 1,227 mg/L, the cycle average BOD loading rate is 23 pounds per acre per day.
21. According to data in Table 2 of [Finding 16](#), the Discharger applied a total of 14.5 million gallons of wastewater to the LAA during the first four months of 2015. Assuming this discharge volume and effluent FDS concentration are relatively

consistent throughout the year, the Discharger will apply 43.5 million gallons of wastewater to the LAA (with a FDS concentration of 836 mg/L) resulting in a FDS loading of approximately 3,800 lbs/acre/year.

22. This Order includes a compliance schedule ([Provision G.3](#)) to allow the Discharger to come into compliance with [Effluent Limitations C.1](#) and [Land Application Area Specifications D.2 and D.3](#) that requires the hydraulic and nutrient loading to the LAA to be at agronomic rates. [Provision G.3](#) also requires the Discharger to submit a Salinity Control Plan.
23. Various chemicals are used at the Facility to control bacteria on the carrots, sanitize equipment, and control pH of process water and are summarized in the Table 3 below:

**Table 3: Chemical Usage**

Chemical	Amount	Use
Seachlor 120 (12.5% Sodium Hypochlorite)	14,000 gallons/year	Bacteria control on carrots
Green Power	624 gallons/year	Clean floors in processing and cutting rooms
Chloro Foam	624 gallons/year	Clean conveyors and belts in processing and cutting rooms
Chlor-O-Clean	936 gallons/year	Clean conveyors and belts in processing and cutting rooms
HD Foaming Acid	1,300 gallons/year	Clean conveyors and belts in the processing room
Citric Acid	2,860 gallons/year	pH buffer of carrot wash water

**Site Specific Conditions**

24. The Facility and LAA are on the southern end of the San Joaquin Valley. Topography in the area is generally flat with an approximate elevation of 500 feet above mean sea level.
25. Federal Emergency Management Agency Flood Insurance Rate Map 06029C2350E, effective 26 September 2008, shows the Facility and the LAA are within Flood Zone AO, area with a flood depth of one foot for a flood that has a one percent chance of being equaled or exceeded in any given year (i.e., 100-year flood).
26. According to the United States Department of Agriculture, National Resource Conservation Survey maps, soils at the Facility and the LAA are Hesperia sandy loam. These soils are described as well drained, nonsaline to very slightly saline, and are typically found on alluvial fans.
27. Climate in the San Joaquin Valley is characterized by hot dry summers and mild winters. The rainy season generally extends from November through April.

Occasional rains occur in the spring and fall months, but summer months are dry. According to the Western Regional Climate Center, average annual precipitation and pan evaporation in Bakersfield are 6.24 inches and 65.11 inches, respectively. According to Department of Water Resources Bulletin No. 195, the maximum annual precipitation for a wet year with a 100-year return period in Bakersfield is 12.5 inches. According to maps prepared by the California Irrigation Management Information System, the reference evapotranspiration in the vicinity of the Facility is about 58 inches per year.

28. The Facility is in a rural area, approximately 12.5 miles southeast of the City of Bakersfield. Land use in the vicinity includes grape vineyards and almond and orange orchards.

**Groundwater Conditions**

29. The RWD reports the depth to groundwater in the vicinity of the site varies between 150 and 300 feet below ground surface (ft. bgs.). According to the *Department of Water Resources, Lines of Equal Depth to Water in Wells, Unconfined Aquifer, San Joaquin Valley, Spring 2010* map, the depth to groundwater in the vicinity of the site was approximately 400 ft. bgs. The regional groundwater flow direction is indeterminate, due in large part by groundwater pumping for irrigation and domestic use, and two artificial groundwater recharge areas, Sycamore Spreading Works and Tejon Spreading Works, owned and operated by the Arvin-Edison Water Storage District.
30. Available groundwater data in the vicinity of the Facility was obtained from Arvin-Edison Water Storage District water supply wells and the *Water Quality Portal* database provided by the United States Geological Survey, National Water Quality Monitoring Council, and the United States Environmental Protection Agency. The groundwater quality data is summarized in Table 4 below. Groundwater quality represented by the sample collected from the on-site water supply well is presented in [Table 1 of Finding 13](#).

**Table 4 - Groundwater Quality in the Vicinity of the DiGiorgio Facility <sup>(1)</sup>**

Well ID	Arvin-Edison Water Storage District			Water Quality Portal					
	AEN-6			601 <sup>(2)</sup>	701 <sup>(3)</sup>			501 <sup>(4)</sup>	
Sample Date	2012	2013	2014	1956	1944	1949	1953	1953	1979
Sample Depth (ft. bgs)	500 - 900			620 - 830	400			955	
Total Dissolved Solids	380	380	420	420	322	580	626	408	418
Electrical Conductivity	666	665	722	--	--	860	988	649	711
Chloride	59	60	69	37	30	95	83	29	39

Well ID	Arvin-Edison Water Storage District			Water Quality Portal					
	AEN-6			601 <sup>(2)</sup>	701 <sup>(3)</sup>			501 <sup>(4)</sup>	
Sample Date	2012	2013	2014	1956	1944	1949	1953	1953	1979
Sample Depth (ft. bgs)	500 - 900			620 - 830	400			955	
Nitrate as Nitrogen	2.7	3.2	3.8	3.2	1.74	19.9	21.7	4.97	6.1
Sulfate	79	82	91	94	59	63	110	70	91
Alkalinity	--	--	--	213	189	156	189	213	213
Bicarbonate	180	180	190	260	230	190	230	260	260
Hardness	130	130	170	250	200	140	380	220	240
Calcium	44	44	57	67	50	77	93	62	68
Iron	--	--	--	0.1	--	--	--	--	--
Magnesium	6	6	7	20	19	26	37	17	16
Potassium	--	--	--	--	6.9	1.5	7.5	5.2	5.2
Sodium	86	80	85	55	44	55	57	52	52
pH	8.1	8.0	8.0	7.2	--	--	7.6	7.7	7.8

<sup>(1)</sup> All sample results presented in milligrams per liter (mg/L), except electrical conductivity which is presented in micromhos per centimeter (umhos/cm) and pH which is presented in standard pH units.

<sup>(2)</sup> Well ID = USGS-351649118484601

<sup>(3)</sup> Well ID = USGS-351655118510701

<sup>(4)</sup> Well ID = USGS-351535118494501

### Basin Plan, Beneficial Uses, and Regulatory Considerations

31. The *Water Quality Control Plan for the Tulare Lake Basin, Second Edition, revised January 2004* (hereafter Basin Plan) designates beneficial uses, establishes water quality objectives, contains implementation plans and policies for protecting waters of the basin, and incorporates by reference plans and policies adopted by the State Water Board. Pursuant to Water Code section 13263(a), waste discharge requirements must implement the Basin Plan.
32. The Facility and land application area lie within the Arvin-Wheeler Ridge Hydrologic Area (No. 557.30) of the South Valley Floor Hydrologic Unit, as depicted on interagency hydrologic maps prepared by the State Water Resources Control Board and the Department of Water Resources, revised August 1986.
33. The beneficial uses of underlying groundwater as set forth in the Basin Plan are municipal and domestic supply, agricultural supply, industrial service supply and industrial process supply.
34. The Basin Plan encourages the reuse of wastewater and identifies crop irrigation as a reuse option where the opportunity exists to replace an existing or proposed use of fresh water with reused water.

35. The Basin Plan establishes narrative water quality objectives for chemical constituents, tastes and odors, and toxicity in groundwater. The toxicity objective requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life associated with designated beneficial uses. The Basin Plan states that when compliance with a narrative objective is required to protect specific beneficial uses, the Central Valley Water Board will, on a case-by-case basis, adopt numerical limitations in order to implement the narrative objective.
36. The Basin Plan's narrative water quality objectives for chemical constituents, at a minimum, require waters designated as domestic or municipal supply to meet the MCLs specified in Title 22 of the California Code of Regulations (hereafter Title 22). The Basin Plan recognizes that the Central Valley Water Board may apply limits more stringent than MCLs to ensure that waters do not contain chemical constituents in concentrations that adversely affect beneficial uses.
37. The Basin Plan identifies the greatest long-term problem facing the entire Tulare Lake Basin as the increase in salinity in groundwater, which has accelerated due to the intensive use of soil and water resources by irrigated agriculture. The Basin Plan recognizes that degradation is unavoidable until a valley wide drain is constructed to carry salts out of the basin. Until the drain is available, the Basin Plan establishes several salt management requirements, including:
  - a. The incremental increase in salts from use and treatment must be controlled to the extent possible. The maximum EC in the discharge shall not exceed the EC of the source water plus 500 umhos/cm. When the source water is from more than one source, the EC shall be a weighted average of all sources.
  - b. Discharges to areas that may recharge good quality groundwater shall not exceed an EC of 1,000 umhos/cm, a chloride content of 175 mg/L, or a boron content of 1.0 mg/L.
38. The Basin Plan allows an exception to the EC limitation of source water plus 500 umhos/cm where the discharge exhibits a disproportionate increase in EC over the EC of source water due to unavoidable concentrations of organic dissolved solids from the raw food product, provided water quality objectives are met and the Discharger has implemented best available technology and best management practices that control inorganic dissolved solids to the maximum extent feasible.
39. As shown in [Findings 13 and 14](#), effluent data for EC, TDS, and FDS indicate the discharge exhibits a disproportionate increase in EC due to concentrations of organic dissolved solids. Thus the discharge is eligible for the Basin Plan incremental EC exception. When industrial discharges are eligible for this exception, it is generally not appropriate to apply the Basin Plan's 1,000 umhos/cm maximum EC limitation.

40. Based on the effluent quality summarized in [Finding 13](#), consistent compliance with the Basin Plan's effluent chloride limitation of 175 mg/L is not immediately practicable. Therefore, [Provision G.3](#) includes a compliance schedule to allow the Discharger time to comply with the effluent chloride limitation.
41. In the absence of specific numerical water quality limitations, the Basin Plan methodology is to consider any relevant published criteria. General salt tolerance guidelines, such as *Water Quality for Agriculture* by Ayers and Westcot and similar references indicate that yield reductions in nearly all crops are not evident when irrigation water has an EC less than 700 umhos/cm. There is, however, an eight- to ten-fold range in salt tolerance for agricultural crops and the appropriate salinity values to protect agriculture in the Central Valley are considered on a case-by-case basis. It is possible to achieve full yield potential with waters having EC up to 3,000 umhos/cm if the proper leaching fraction is provided to maintain soil salinity within the tolerance of the crop.
42. The list of crops in [Finding 28](#) is not intended as a definitive inventory of crops that are or could be grown in the area affected by the discharge, but it is representative of current and historical agricultural practices in the area.
43. Excessive application of high organic strength wastewater to land can create objectionable odors, soil conditions that are harmful to crops, and degradation of underlying groundwater with nitrogen species and metals, as discussed below. Such groundwater degradation can be prevented or minimized through implementation of best management practices which include planting crops to take up plant nutrients and maximizing oxidation of BOD to prevent nuisance conditions.
44. It is reasonable to expect some attenuation of various waste constituents that percolate below the root zone within the vadose (unsaturated) zone. Specifically, excess nitrogen can be mineralized and denitrified by soil microorganisms, organic constituents (measured as both BOD and volatile dissolved solids) can be oxidized, and the cation exchange capacity of the soil may immobilize some salinity constituents.
45. With regard to BOD, excessive application can deplete oxygen in the vadose zone and lead to anoxic conditions. At the ground surface, this can result in nuisance odors and fly-breeding. When insufficient oxygen is present below the ground surface, anaerobic decay of the organic matter can create reducing conditions that convert metals that are naturally present in the soil as relatively insoluble (oxidized) forms to more soluble reduced forms. This condition can be exacerbated by acidic soils and/or acidic wastewater. If the reducing conditions do not reverse as the percolate travels down through the vadose zone, these dissolved metals (primarily iron, manganese, and arsenic) can degrade shallow groundwater quality. Many

aquifers contain enough dissolved oxygen to reverse the process, but excessive BOD loading over extended periods may cause beneficial use impacts associated with these metals.

46. Typically, irrigation with high strength wastewater results in high BOD loading on the day of application. It is reasonable to expect some oxidation of BOD at the ground surface, within the evapotranspiration zone and below the root zone within the vadose (unsaturated) zone. The maximum BOD loading rate that can be applied to land without creating nuisance conditions or leaching of metals can vary significantly depending on soil conditions and operation of the land application system.
47. *Pollution Abatement in the Fruit and Vegetable Industry*, published by the United States Environmental Protection Agency, cites BOD loading rates in the range of 36 to 600 pounds per acre per day (lbs/acre/day) to prevent nuisance, but indicates the loading rates can be even higher under certain conditions. The studies that supported this report did not evaluate actual or potential groundwater degradation associated with those rates. There are few studies that have attempted to determine maximum BOD loading rates for protection of groundwater quality. Those that have been done are not readily adapted to the varying soil, groundwater, and climate conditions that are prevalent throughout the region.
48. This Order sets a cycle average BOD loading rate for the LAAs of 100 lbs/acre/day when wastewater is applied, requires the Discharger to prepare a Salinity Control Plan and Wastewater Nutrient Management Plan to address the concentration of chloride in the effluent and hydraulic and nutrient loading rates to the land application area.

#### **Antidegradation Analysis**

49. State Water Resources Control Board Resolution 68-16 ("Policy with Respect to Maintaining High Quality Waters of the State") (hereafter Resolution 68-16) prohibits degradation of groundwater unless it has been shown that:
  - a. The degradation does not result in water quality less than that prescribed in state and regional policies, including violation of one or more water quality objectives;
  - b. The degradation will not unreasonably affect present and anticipated future beneficial uses;
  - c. The discharger employs best practicable treatment or control (BPTC) to minimize degradation; and
  - d. The degradation is consistent with the maximum benefit to the people of the state.

50. Constituents of concern that have the potential to cause degradation of high quality waters include, in part, organics, nutrients, and salts.
- a. For organics, this Order sets a cycle average BOD loading rate for the LAA of 100 lbs/acre/day, which is expected to prevent odor and nuisance conditions, minimize the potential for anoxic and reducing conditions in soil, and preclude iron and manganese degradation of groundwater from organic loading. This Order also requires the Discharger to cease discharging to the land application areas in the event the soils become saturated, and requires monitoring of the land application areas to check for ponding and/or nuisance conditions.

With the conditions stipulated in this Order, and depth to groundwater, the discharge is not expected to cause nuisance conditions or unreasonably degrade groundwater with constituents related to organic overloading.

- b. For nitrogen, most of the nitrogen in the effluent is present as TKN which can mineralize and be converted to nitrate (with some loss via ammonia volatilization). With nitrogen uptake by crops, nitrification and denitrification in soils, depth to groundwater beneath the site, the discharge is not expected to contribute to groundwater degradation that would violate water quality objectives. This Order includes a Provision requiring the Discharger to submit a Wastewater Nutrient Management Plan to ensure application of wastewater to the land application areas at agronomic rates.
- c. For salinity, as discussed in [Findings 13 and 14](#), a large portion of the TDS of in the effluent is in the volatile form, which can be broken down and biologically treated by soil microorganisms. In addition, a portion of the fixed dissolved solids will bind to soil and can be reduced by nutrient uptake by crops primarily calcium, magnesium, nitrates, phosphorous, and potassium.

With a cycle average BOD loading limit of 100 lbs/acre/day to reduce the organic loading on the land application areas, the requirement for the discharge to be at agronomic rates for nutrient and hydraulic loading, and growing crops to take up excess nutrients and salts, the discharge is not expected to further degrade groundwater for salinity. In addition, this Order includes a Provision requiring the Discharger to submit a Salinity Control Plan to evaluate and implement measures to control salinity of its discharge in order to comply with the effluent chloride limitation of 175 mg/L ([Effluent Limitations C.1](#)).

### **Treatment and Control Practices**

51. The Discharger has implemented, or is required by this Order to implement, the following treatment and control of the discharge:
- a. Reuse of wastewater for irrigation of crops at agronomic rates;
  - b. A cycle average BOD loading limitation of 100 lbs/acre/day;

- c. Resting periods between wastewater applications;
- d. Hydraulic loading rates that preclude standing water in the land application areas;
- e. Proper handling and off-site disposal of solids; and
- f. Preparation of a Salinity Control Plan and Wastewater Nutrient Management Plan.

### **Antidegradation Conclusions**

- 52. This Order establishes groundwater limitations that allow some degradation, but that will not unreasonably threaten present and future anticipated beneficial uses of groundwater or result in groundwater quality that exceeds water quality objectives set forth in the Basin Plan.
- 53. The treatment and control measures described above in [Finding 51](#), in combination with the requirements of this Order, represent BPTC. Adoption of this Order will result in the implementation of BPTC. In addition, this Order requires monitoring to evaluate potential groundwater impacts from the discharge and confirm that BPTC measures are sufficiently protective of groundwater quality.
- 54. The Discharger aids in the economic prosperity of the region by direct employment and provides a tax base for local and county governments. Provided the discharge complies with State and Central Valley Water Board plans and policies, authorized degradation due to the continued operation of the Facility is to the maximum benefit to the people of the State. In addition, the use of process wastewater for irrigation in place of higher quality groundwater is of further benefit to the people of the State.
- 55. The discharge and the potential for groundwater degradation allowed in this Order is consistent with the Antidegradation Policy since: (a) the limited degradation allowed by this Order will not result in water quality less than water quality objectives, or unreasonably affect present and anticipated beneficial uses of groundwater, (b) the Discharger have implemented BPTC to minimize degradation, and (c) the limited degradation is of maximum benefit to the people of the State.

### **Other Regulatory Considerations**

- 56. In compliance with Water Code section 106.3, it is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. This order promotes that policy by requiring discharges to the LAA to be at agronomic rates so that underlying groundwater quality meets maximum contaminant levels designed to protect human health and ensure that water is safe for domestic use.

57. Based on the threat and complexity of the discharge, the facility is determined to be classified as 2B as defined below:
- a. Category 2 threat to water quality: "Those discharges of waste that could impair the designated beneficial uses of the receiving water, cause short-term violations of water quality objectives, cause secondary drinking water standards to be violated, or cause a nuisance."
  - b. Category B complexity, defined as: "Any discharger not included [as Category A] that has physical, chemical, or biological treatment systems (except for septic systems with subsurface disposal) or any Class 2 or Class 3 waste management units."
58. Title 27 of the California Code of Regulations (hereafter Title 27) contains regulatory requirements for the treatment, storage, processing, and disposal of solid waste. However, Title 27 exempts certain activities from its provisions. Discharges regulated by this Order are exempt from Title 27 pursuant to provisions that exempt domestic sewage, wastewater, and reuse. Title 27, section 20090 states in part:

The following activities shall be exempt from the SWRCB-promulgated provisions of this subdivision, so long as the activity meets, and continues to meet, all preconditions listed:

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(b) Wastewater - Discharges of wastewater to land, including but not limited to evaporation ponds, percolation ponds, or subsurface leachfields if the following conditions are met:

- (1) the applicable RWQCB has issued WDRs, reclamation requirements, or waived such issuance;
- (2) the discharge is in compliance with the applicable water quality control plan;  
and
- (3) the wastewater does not need to be managed according to Chapter 11, Division 4.5, Title 22 of this code as a hazardous waste.

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59. The discharge authorized herein, and the treatment and storage facilities associated with the discharge, are exempt from the requirements of Title 27 as follows:
- a. Discharge to the LAA is exempt pursuant to Title 27, section 20090(b) because they are discharge of wastewater to land and:
    - i. The Central Valley Water Board is issuing WDRs;

- ii. The discharge is in compliance with the Basin Plan; and,
- iii. The treated effluent discharged to the ponds does not need to be managed as hazardous waste.

60. The State Water Board adopted Order 97-03-DWQ (NPDES General Permit CAS000001) specifying waste discharge requirements for discharges of storm water associated with industrial activities. A new General Permit for industrial storm water discharges, Order 2014-0057-DWQ (NPDES General Permit CAS000001) was adopted on 1 April 2014 and will become effective on 1 July 2015. Order 2014-0057-DWQ requires all applicable industrial dischargers to apply for coverage under the new General Order by the effective date. However, all storm water at the Facility is captured in an unlined pond on-site or commingled with process wastewater before being discharged to the LAA in accordance with these WDRs, which prohibits the discharge from leaving the site and entering waters of the United States. Therefore, the Discharger is not required to obtain coverage under the new NPDES General Permit.

61. Water Code section 13267(b)(1) states:

In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.

The technical reports required by this Order and the attached Monitoring and Reporting Program R5-2015-XXXX are necessary to ensure compliance with these waste discharge requirements. The Discharger owns and operates the facility that discharges the waste subject to this Order.

62. Pursuant to Water Code section 13263(g), discharge is a privilege, not a right, and adoption of this Order does not create a vested right to continue the discharge.

### **California Environmental Quality Act**

63. The Facility has been in operation since 2007. All wastewater management systems and land application areas have been installed and are currently in use. This Order

places additional requirements on the continued operation of the Facility in order to ensure protection of waters of the State. The issuance of this Order is therefore exempt from the provisions of the California Environmental Quality Act in accordance with California Code of Regulations, title 14, section 15301, which exempts the, "operation, repair, maintenance, [and] permitting...of existing public or private structures, facilities, mechanical equipment, or topographical features" from environmental review.

### **Public Notice**

64. All the above and the supplemental information and details in the attached Information Sheet, which is incorporated by reference herein, were considered in establishing the following conditions of discharge.
65. The Discharger and interested agencies and persons have been notified of the Central Valley Water Board's intent to prescribe waste discharge requirements for this discharge, and they have been provided an opportunity to submit written comments and an opportunity for a public hearing.
66. All comments pertaining to the discharge were heard and considered in a public hearing.

**IT IS HEREBY ORDERED** that, pursuant to Water Code sections 13263 and 13267, Kern Ridge Growers, LLC, and Larry R. Cox and Joan W. Cox, as Trustees of the Cox Family Trust of 2004, its agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the Water Code and regulations adopted hereunder, shall comply with the following:

#### **A. Discharge Prohibitions**

1. Discharge of wastes to surface waters or surface water drainage courses is prohibited.
2. Discharge of waste classified as 'hazardous', as defined in the California Code of Regulations, title 23, section 2510 et seq., is prohibited.
3. Bypass of untreated or partially treated waste is prohibited, except as allowed by Standard Provision E.2 of the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements*.
4. Discharge of waste at a location or in a manner different from that described in the Findings herein, is prohibited.
5. Discharge of domestic wastewater to the land application areas or any surface waters is prohibited.

## **B. Discharge Specifications**

1. No waste constituent shall be released, discharged, or placed where it will be released or discharged, in a concentration or in a mass that causes violation of the Groundwater Limitations of this Order.
2. Wastewater treatment, storage, and disposal shall not cause pollution or a nuisance as defined by Water Code section 13050.
3. The discharge shall remain within the permitted waste treatment/containment structures and land application areas at all times.
4. The Discharger shall operate all systems and equipment to optimize the quality of the discharge.
5. Objectionable odors as a result of Facility operations shall not be perceivable beyond the limits of the property where the waste is generated, treated, and/or discharged at an intensity that creates or threatens to create nuisance conditions.
6. Discharge shall be distributed uniformly on adequate acreage within the LAA in compliance with this Order.

## **C. Effluent Limitations**

1. As determined by collecting samples from monitoring location EFF-004, the blend of wastewater, storm water, and supplemental irrigation water applied to the LAA shall not exceed a chloride concentration of 175 mg/L, subject to the Compliance Schedule provided in [Provision G.3](#).

## **D. Land Application Area Specifications**

1. Crops shall be grown in the LAA. Crops shall be selected based on nutrient uptake, consumptive use of water, and irrigation requirements to maximize crop uptake of water and nutrients.
2. Application of waste constituents to the LAA shall be at reasonable agronomic rates to preclude creation of a nuisance or unreasonable degradation of groundwater, considering the crop, soil, climate, and irrigation management system. The annual nutritive loading of the LAA, including the nutritive value of organic and chemical fertilizers and of the wastewater, shall not exceed the annual crop demand, subject to the Compliance Schedule provided in [Provision G.3](#).
3. Hydraulic loading of wastewater and irrigation water shall be at reasonable agronomic rates, subject to the Compliance Schedule provided in [Provision G.3](#).

4. The BOD loading to the LAA, calculated as a cycle average as determined by the method described in the *Land Application Area Monitoring* section of the attached Monitoring and Reporting Program, shall not exceed 100 pounds per acre per day.
5. The pH of wastewater applied to the LAA shall not exceed the buffering capacity of the soil within the LAA.
6. Land application of wastewater shall be managed to minimize erosion.
7. The Discharger may not discharge process wastewater to the LAA when it is raining or when soils are saturated.
8. Any runoff of wastewater or irrigation water shall be confined to the LAA and shall not enter any surface water drainage course or storm water drainage system.
9. The LAA shall be inspected periodically to determine compliance with the requirements of this Order. If an inspection reveals noncompliance or threat of noncompliance with this Order, the Discharger shall temporarily stop discharging wastewater to the LAA immediately and implement corrective actions to ensure compliance with this Order.
10. The LAA shall be managed to prevent breeding of mosquitos. More specifically:
  - a. All applied wastewater or irrigation water must infiltrate completely within 48-hours;
  - b. Ditches not serving as wildlife habitat shall be maintained free of emergent, marginal, and floating vegetation; and
  - c. Low-pressure and unpressurized pipeline and ditches accessible to mosquitos shall not be used to store recycled water.

#### **E. Groundwater Limitations**

Release of waste constituents associated with the discharge shall not cause or contribute to groundwater containing constituent concentrations in excess of the concentrations specified below or in excess of natural background quality, whichever is greater:

- a. Nitrate as nitrogen of 10 mg/L.
- b. For constituents identified in Title 22 of the California Code of Regulations, the MCLs quantified therein.

## **F. Solids Disposal Specifications**

Solids, as used in this document, means the soil sediments removed from washing of unprocessed carrots. Residual solids means organic food processing byproducts, such as carrot peels, that will not be subject to treatment prior to disposal or land application.

1. Solids shall be removed from screens, sumps, ponds, and clarifiers as needed to ensure optimal operation and adequate storage capacity.
2. Any handling and storage of solids and residual solids shall be controlled and contained in a manner that minimizes leachate formation and precludes infiltration of waste constituents into soils in a mass or concentration that will violate the groundwater limitations of this Order.
3. Solids may be discharged to land in accordance with the Land Application Area Specifications of this Order.
4. Residual solids that are removed off-site shall be disposed of in a manner approved by the Executive Officer and consistent with Title 27, division 2. Removal for reuse as animal feed, or land disposal at facilities (i.e., landfills, composting facilities, soil amendment sites operated in accordance with valid waste discharge requirements issued by a Regional Water Board) will satisfy this specification.
5. Any proposed change in solids or residual solids use or disposal practice shall be reported in writing to the Executive Officer at least 90 days in advance of the change.

## **G. Provisions**

1. The Discharger shall comply with Monitoring and Reporting Program (MRP) R5-2015-XXXX, which is part of this Order, and any revisions thereto as ordered by the Executive Officer. The submittal dates of self-monitoring reports shall be no later than the submittal date specified in the MRP.
2. The Discharger shall comply with the "Standard Provisions and Reporting Requirements for Waste Discharge Requirements", dated 1 March 1991, which are attached hereto and made a part of this Order. This attachment and its individual paragraphs are commonly referenced as "Standard Provisions."
3. The Discharger shall comply with [Effluent Limitations C.1](#) and [Land Application Area Specifications D.2 and D.3](#) in accordance with the following compliance schedule:

<b>Task</b>	<b>Description</b>	<b>Date Due</b>
1	Submit a Salinity Control Plan, and implementation schedule that identifies and evaluates specific control measures, treatment measures, and/or other measures for potential implementation at the DiGiorgio Facility to ensure compliance with <a href="#">Effluent Limitations C.1</a> . The Salinity Control Plan and implementation schedule shall be subject to the approval of the Executive Officer.	<b>(Within 6 months following the adoption date of this Order)</b>
2	Begin implementation of the approved Task 1 schedule.	<b>In accordance with the approved Task 1 schedule, but no later than (9 months following the adoption date of this Order)</b>
3	Submit a Wastewater Nutrient Management Plan with an implementation schedule for Executive Officer approval. At a minimum, the Wastewater Nutrient Management Plan must include: (a) management practices that will result in the application of wastewater, irrigation water, and fertilizer at agronomic rates to the LAA (particularly in the winter months) that will ensure compliance with <a href="#">Land Application Area Specifications D.2</a> , and (2) management practices that will result in the hydraulic loading of wastewater and irrigation water to the LAA at agronomic rates (particularly in the winter months) that will ensure compliance with <a href="#">Land Application Area Specifications D.3</a> .	<b>(Within 9 months following the adoption date of this Order)</b>
4	Begin implementation of the approved Task 3 schedule.	<b>In accordance with the approved Task 3 schedule, but no later than (12 months following the adoption date of this Order)</b>

<b>Task</b>	<b>Description</b>	<b>Date Due</b>
5	Submit annual progress reports for the Task 1 Salinity Control Plan and the Task 3 Wastewater Nutrient Management Plans.	<b>Beginning 1 February 2017, by the first day of February each year until the Discharger has completed Task 6.</b>
6	Submit a technical report demonstrating (1) complete implementation of the specific control measures, treatment measures, and/or other measures from the Salinity Control Plan and the resulting compliance with <a href="#">Effluent Limitations C.1</a> and (2) complete implementation of the management practices from the Wastewater Nutrient Management Plan and the resulting compliance with <a href="#">Land Application Area Specifications D.2 and D.3</a> . Upon receipt of written concurrence by the Executive Officer, this task shall be considered complete.	<b>In accordance with the approved schedules from the Salinity Control Plan and Wastewater Nutrient Management Plans, but no later than (3 years following the adoption of this Order)</b>

4. In accordance with California Business and Professions Code sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. All technical reports specified herein that contain work plans for investigations and studies, that describe the conduct of investigations and studies, or that contain technical conclusions and recommendations concerning engineering and geology shall be prepared by or under the direction of appropriately qualified professional(s), even if not explicitly stated. Each technical report submitted by the Discharger shall bear the professional's signature and stamp.
5. The Discharger shall submit the technical reports and work plans required by this Order for consideration by the Executive Officer, and incorporate comments the Executive Officer may have in a timely manner, as appropriate. Unless expressly stated otherwise in this Order, the Discharger shall proceed with all work required by the foregoing provisions by the due dates specified.
6. The Discharger shall comply with all conditions of this Order, including timely submittal of technical and monitoring reports. On or before each report due date, the Discharger shall submit the specified document to the Central Valley Water Board or, if appropriate, a written report detailing compliance or noncompliance with the specific schedule date and task. If noncompliance is being reported, then the Discharger shall state the reasons for such noncompliance and provide an

estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Central Valley Water Board in writing when it returns to compliance with the time schedule. Violations may result in enforcement action, including Central Valley Water Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.

7. The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by the Discharger only when the operation is necessary to achieve compliance with the conditions of this Order.
8. As described in the Standard Provisions, the Discharger shall report promptly to the Central Valley Water Board any material change or proposed change in the character, location, or volume of the discharge.
9. **At least 90 days** prior to termination or expiration of any lease, contract, or agreement involving disposal or recycling areas or off-site reuse of effluent, used to justify the capacity authorized herein and assure compliance with this Order, the Discharger shall notify the Central Valley Water Board in writing of the situation and of what measures have been taken or are being taken to assure full compliance with this Order.
10. In the event of any change in control or ownership of the Facility, the Discharger must notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Central Valley Water Board.
11. To assume operation as Discharger under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the state of incorporation if a corporation, the name and address and telephone number of the persons responsible for contact with the Central Valley Water Board, and a statement. The statement shall comply with the signatory paragraph of Standard Provision B.3 and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the Water Code. If approved by the Executive Officer, the transfer request will be submitted to the Central Valley Water Board for its consideration of transferring the ownership of this Order at one of its regularly scheduled meetings.

12. A copy of this Order including the MRP, Information Sheet, Attachments, and Standard Provisions, shall be kept at the Facility for reference by operating personnel. Key operating personnel shall be familiar with its contents.
13. If the Central Valley Water Board determines that the discharge has a reasonable potential to cause or contribute to an exceedance of a water quality objective, or to create a condition of nuisance or pollution, this Order may be reopened for consideration of additional requirements.
14. The Central Valley Water Board is currently implementing the CV-SALTS initiative to develop a Basin Plan amendment that will establish a salt and nitrate management plan for the Central Valley. Through this effort, the Basin Plan will be amended to define how the narrative water quality objectives are to be interpreted for the protection of agricultural use. If new information or evidence indicates that groundwater limitations different than those prescribed herein are appropriate, this Order will be reopened to incorporate such limits.
15. The Central Valley Water Board will review this Order periodically and will revise requirements when necessary.

If, in the opinion of the Executive Officer, the Discharger fails to comply with the provisions of this Order, the Executive Officer may refer this matter to the Attorney General for judicial enforcement, may issue a complaint for administrative civil liability, or may take other enforcement actions. Failure to comply with this Order may result in the assessment of Administrative Civil Liability of up to \$10,000 per violation, per day, depending on the violation, pursuant to the Water Code, including sections 13268, 13350 and 13385. The Central Valley Water Board reserves its right to take any enforcement actions authorized by law.

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at:

[http://www.waterboards.ca.gov/public\\_notices/petitions/water\\_quality](http://www.waterboards.ca.gov/public_notices/petitions/water_quality)

or will be provided upon request.

WASTE DISCHARGE REQUIREMENTS ORDER R5-2015-XXXX  
KERN RIDGE GROWERS, LLC AND  
LARRY R. COX AND JOAN W. COX, AS TRUSTEES OF THE COX FAMILY TRUST OF 2004  
DIGIORGIO FACILITY  
KERN COUNTY

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I, PAMELA C. CREEDON, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board on XX October 2015.

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PAMELA C. CREEDON, Executive Officer

Order Attachment

A. Site Location Map

Monitoring and Reporting Program R5-2015-XXXX

Information Sheet Order R5-2015-XXXX

Standard Provisions (1 March 1991) (separate attachment to Discharger only)

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM R5-2015-XXXX

FOR

KERN RIDGE GROWERS, LLC

AND

LARRY R. COX AND JOAN W. COX,  
AS TRUSTEES OF THE COX FAMILY TRUST OF 2004  
DIGIORGIO FACILITY  
KERN COUNTY

This Monitoring and Reporting Program (MRP) is required pursuant to California Water Code (CWC) section 13267.

The Discharger shall not implement any changes to this MRP unless and until the Central Valley Water Board adopts, or the Executive Officer issues, a revised MRP. Changes to sample location shall be established with concurrence of Central Valley Water Board staff, and a description of the revised stations shall be submitted for approval by the Executive Officer.

All samples shall be representative of the volume and nature of the discharge or matrix of material sampled. All analyses shall be performed in accordance with **Standard Provisions and Reporting Requirements for Waste Discharge Requirements**, dated 1 March 1991 (Standard Provisions).

Field test instruments (such as pH, temperature, and electrical conductivity) may be used provided that the operator is trained in the proper use of the instrument and each instrument is serviced and/or calibrated at the recommended frequency by the manufacturer or in accordance with manufacturer instructions.

Analytical procedures shall comply with the methods and holding times specified in the following: *Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater* (EPA); *Test Methods for Evaluating Solid Waste* (EPA); *Methods for Chemical Analysis of Water and Wastes* (EPA); *Methods for Determination of Inorganic Substances in Environmental Samples* (EPA); *Standard Methods for the Examination of Water and Wastewater* (APHA/AWWA/WEF); and *Soil, Plant and Water Reference Methods for the Western Region* (WREP 125). Approved editions shall be those that are approved for use by the United States Environmental Protection Agency or the State Water Resources Control Board, Division of Drinking Water Environmental Laboratory Accreditation Program. The Discharger may propose alternative methods for approval by the Executive Officer.

If monitoring consistently shows no significant variation in magnitude of a constituent concentration or parameter after at least 12 months of monitoring, the Discharger may request this MRP be revised to reduce monitoring frequency. The proposal must include adequate technical justification for reduction in monitoring frequency.

A glossary of terms used within this MRP is included on [page 9](#).

The Discharger shall monitor the following locations to demonstrate compliance with the requirements of this Order:

<b>Monitoring Location Name</b>	<b>Monitoring Location Description</b>
<b>EFF-001</b>	Location where a representative sample of Washout Area Wastewater can be obtained.
<b>EFF-002</b>	Location where a representative sample of Process Wastewater can be obtained.
<b>EFF-003</b>	Location where a representative sample of commingled Washout Water, Process Wastewater, and Arvin-Edison irrigation water (if any) can be obtained prior to discharge to the Land Application Area.
<b>SPL-001</b>	Location where a representative sample of the water supply entering the Facility can be obtained.
<b>LAA-001</b>	Land Application Area where discharge from the Facility and irrigation water is applied.
<b>IW-001</b>	Location where a representative sample of Arvin-Edison irrigation water can be obtained.
<b>SLD-001</b>	Location where a representative sample of solids removed from Washout Area Wastewater and applied to fallow cropland can be obtained.

### **EFFLUENT MONITORING**

The Discharger shall monitor effluent for the constituents listed below. Effluent samples shall be representative of the volume and nature of the discharge. Time of collection of the samples shall be recorded. Effluent monitoring shall include at least the following:

EFF-001 (Washout Area Wastewater) and EFF-002 (Process Wastewater)

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
Continuous	Flow	mgd	Meter
1/Quarter	General Minerals	various	Grab

EFF-003 (Commingled Washout Water, Process Wastewater and Arvin-Edison Water)

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
Continuous	Flow	mgd	Meter
1/Week	pH	pH Units	Grab
1/Week	EC	umhos/cm	Grab
1/Month	BOD <sub>5</sub>	mg/L	Grab
1/Month	TDS	mg/L	Grab
1/Month	FDS	mg/L	Grab

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
1/Month	Nitrate as nitrogen	mg/L	Grab
1/Month	Nitrite as nitrogen	mg/L	Grab
1/Month	Ammonia as nitrogen	mg/L	Grab
1/Month	Total Kjeldahl Nitrogen	mg/L	Grab
1/Month	Total Nitrogen	mg/L	Calculated
1/Month	Chloride	mg/L	Grab
2/Year	General Minerals	various	Grab

### SOURCE WATER MONITORING

The Discharger shall collect samples of its source water for the Facility at SPL-001, and analyze them for the constituents specified below. If the source water is from more than one source, the results shall be presented as a flow-weighted average of all sources.

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
1/Month	EC	mg/L	Grab
1/Year	General Minerals	mg/L	Grab

### LAND APPLICATION AREA MONITORING

The Discharger shall inspect the condition of the land application area at least once per week and write visual observations in a bound logbook. Evidence of erosion, field saturation, runoff, or the presence of nuisance conditions (i.e., flies, ponding, etc.) shall be noted in the logs and included as part of the quarterly monitoring report.

In addition, the Discharger shall perform the following routine monitoring and loading calculations for each discrete irrigation area within the land application area. The data shall be collected and presented in tabular format and shall include the following:

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
1/Day <sup>1</sup>	Application Area	acres	n/a
1/Day <sup>1</sup>	Wastewater flow	gallons	Metered
1/Day <sup>1</sup>	Wastewater loading	inches/day	Calculated
1/Day <sup>1</sup>	Precipitation	inches	Rain gage <sup>2</sup>
1/Month <sup>1</sup>	Supplemental irrigation	gallons	Estimated
1/Month <sup>1</sup>	Total hydraulic loading <sup>3</sup>	inches/acre-month	Calculated

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
BOD Loading <sup>4</sup>			
1/Day	Day of application	lbs/acre-day	Calculated
Average	cycle average <sup>5</sup>	lbs/acre-day	Calculated
Nitrogen Loading <sup>4</sup>			
1/Year	From wastewater	lbs/acre-year	Calculated
1/Year	From fertilizers	lbs/acre-year	Calculated
Salt Loading <sup>4</sup>			
1/Year	From wastewater	lbs/acre-year	Calculated

1. When discharging and while wastewater is applied to the land application area.
2. National Weather Service or CIMIS data from the nearest weather station is acceptable.
3. Combined loading from wastewater, irrigation water, and precipitation.
4. Loading rates shall be calculated using the applied volume of wastewater, applied acreage, and average effluent concentrations of the three most recent monitoring results from EFF-004 for BOD, total nitrogen, and FDS.
5. The Cycle Average BOD loading shall be calculated using the following formula:

$$M = \frac{8.345(CV)}{AT}$$

- Where:
- M = cycle average BOD loading rate to the LAA in lbs/acre/day
  - C = average effluent concentration of the three most recent monitoring results from EFF-004 for BOD in mg/L
  - V = volume of wastewater applied to the LAA during an irrigation event in millions of gallons
  - A = area of the LAA irrigated during an irrigation event in acres
  - T = irrigation cycle length (time of irrigation + time of rest) in days
  - 8.345 = unit conversion factor

### IRRIGATION WATER MONITORING

Samples of supplemental irrigation water used to irrigate the land application area shall be collected at IW-001, and analyzed for the constituents specified below. Publically available data (such water quality data from the Arvin-Edison Water Storage District) may be used in lieu of collecting and analyzing samples of the irrigation water.

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
1/Quarter	EC	umhos/cm	Grab
1/Quarter	TDS	mg/L	Grab
1/Month	Volume	acre-feet	Estimated

## SOLIDS MONITORING

Samples of solids separated from Washout Area Wastewater and applied to fallow cropland shall be collected at SLD-001, and analyzed for the constituents specified below.

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
2/Year	Application location	n/a	n/a
2/Year	Application area	Acres	n/a
1/Quarter	EC	umhos/cm	Composite
2/Year	General Minerals	various	Composite
1/Quarter	Volume of solids separated from Washout Area Wastewater	ft <sup>3</sup>	n/a

## REPORTING

All monitoring results shall be reported in **Quarterly Monitoring Reports**, which are due by the first day of the second month after the calendar quarter. Therefore, monitoring reports are due as follows:

- First Quarter Monitoring Report: **1 May**
- Second Quarter Monitoring Report: **1 August**
- Third Quarter Monitoring Report: **1 November**
- Fourth Quarter Monitoring Report: **1 February.**

The Central Valley Water Board has gone to a Paperless Office System. All regulatory documents, submissions, materials, data, monitoring reports, and correspondence should be converted to a searchable Portable Document Format (PDF) and submitted electronically. Documents that are less than 50MB should be emailed to: [centralvalleyfresno@waterboards.ca.gov](mailto:centralvalleyfresno@waterboards.ca.gov). Documents that are 50MB or larger should be transferred to a disk and mailed to the appropriate regional water board office, in this case 1685 E Street, Fresno, CA, 93706.

To ensure that your submittals are routed to the appropriate staff, the following information block should be included in any email used to transmit documents to this office:

Program: Non-15, WDID:5C15NC00092, Facility Name: Kern Ridge Growers DiGiorgio  
Facility Order: R5-2015-XXXX

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized in such a manner that illustrates clearly, whether the Discharger complies with waste discharge requirements. In addition to the details specified in Standard Provision C.3, monitoring information shall include the method detection limit (MDL) and the Reporting limit (RL) or practical quantitation limit (PQL). If the regulatory limit for a given

constituent is less than the RL (or PQL), then any analytical results for that constituent that are below the RL (or PQL) but above the MDL shall be reported and flagged as estimated.

Laboratory analysis reports do not need to be included in the monitoring reports; however, the laboratory reports must be retained for a minimum of three years in accordance with Standard Provision C.3.

All monitoring reports shall comply with the signatory requirements in Standard Provision B.3. For a Discharger conducting any of its own analyses, reports must also be signed and certified by the chief of the laboratory.

All monitoring reports that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code sections 6735, 7835, and 7835.1.

In the future, the State or Central Valley Water Board may notify the Discharger to electronically submit and upload monitoring reports using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site <http://www.waterboards.ca.gov/ciwqs/index.html> or similar system. Electronic submittal to CIWQS, when implemented, will meet the requirements of our Paperless Office System.

**A. All Quarterly Monitoring Reports** shall include the following:

**Effluent Monitoring Reporting:**

1. Tabulated results of effluent monitoring specified on [pages 2 and 3](#).
2. For each month of the quarter, calculation of the monthly flow and the monthly average daily flow.

**Source Water Reporting**

1. The results of the source water monitoring for the Facility specified on [page 3](#). If multiple sources are used the Discharger, shall calculate the flow-weighted average concentrations for the specified constituents. Results must include supporting calculations, if required.

**Land Application Area Reporting:**

1. The results of monitoring and loading calculations specified on [pages 3 and 4](#).
2. Calculation of the hydraulic load for wastewater and supplemental irrigation water to the land application area in gallons and/or acre-inches.
3. A summary of the notations made in the log book during each quarter. The entire contents of the log do not need to be submitted.

4. For each week, calculation of the daily and average BOD loading for the irrigation cycle, using the BOD results for that month.

### **Irrigation Water Reporting**

1. The results of monitoring of supplemental irrigation water as specified on [page 4](#). If multiple sources are used the Discharger shall provide sampling results and volume of irrigation water provided from each source.

**B. Fourth Quarter Monitoring Reports**, in addition to the above, shall include the following:

### **Facility Information:**

1. The names and telephone numbers of persons to contact regarding the discharge for emergency and routine situations.
2. A statement certifying when the flow meter and other monitoring instruments and devices were last calibrated, including identification of who performed the calibrations (Standard Provision C.4).
3. A summary of any changes in processing that might affect waste characterization and/or discharge flow rates.

### **Effluent Monitoring Reporting:**

1. A summary of tabulated results of effluent monitoring specified on [pages 2 and 3](#).
2. Calculation of the maximum daily flow, monthly average flow, and cumulative annual flow.

### **Land Application Area Reporting:**

1. The type of crop(s) grown, planting and harvest dates, and the quantified nitrogen and fixed dissolved solids uptakes including potassium (as estimated by technical references or, preferably, determined by representative plant tissue analysis).
2. The monthly and annual discharge volumes during the reporting year expressed as million gallons and inches.
3. A monthly balance for the reporting year that includes:
  - a. Monthly average  $ET_o$  (observed evapotranspiration) – Information sources include California Irrigation Management Information System (CIMIS) <http://www.cimis.water.ca.gov/>
  - b. Monthly crop uptake

- i. Crop water utilization rates are available from a variety of publications available from the local University of California Davis extension office.
    - ii. Irrigation efficiency – Frequently, engineers include a factor for irrigation efficiency such that the application rate is slightly greater than the crop utilization rate. A conservative design does not include this value.
  - c. Monthly average precipitation – this data is available at <http://www.cimis.water.ca.gov/> or at <http://www.ncdc.noaa.gov/oa/climate/online/ccd/nrmlprcp.html>.
  - d. Monthly average and annual average discharge flow rate.
  - e. Monthly estimates of the amount of wastewater percolating below the root zone (i.e., amount of wastewater applied in excess of crop requirements)
4. A summary of average and cycle BOD loading rates.
  5. The total pounds of nitrogen applied to the land application areas in lbs/acre-year, as calculated from the sum of the monthly loadings.
  6. The total pounds of fixed dissolved solids (FDS) that have been applied to the land application areas in lbs/acre-year, as calculated from the sum of the monthly loadings.

**Solids Reporting:**

1. The tabulated summary results of Solids Monitoring as specified on [page 5](#).

The Discharger shall implement the above monitoring program on the first day of the month following adoption of this Order.

Ordered by: \_\_\_\_\_

PAMELA C. CREEDON, Executive Officer

\_\_\_\_\_  
(Date)

## GLOSSARY

BOD <sub>5</sub>	Five-day biochemical oxygen demand
CaCO <sub>3</sub>	Calcium carbonate
EC	Electrical conductivity at 25° C
FDS	Fixed dissolved solids
TDS	Total dissolved solids
Continuous	The specified parameter shall be continuously measured by a meter.
1/Day	Samples shall be collected every day.
1/Week	Samples shall be collected at least once per week.
1/Month	Samples shall be collected at least once per month.
1/Quarter	Samples shall be collected at least once per calendar quarter. Unless otherwise specified or approved, samples shall be collected in January, April, July, and October.
1/Year	Samples shall be collected at least once per year. Unless otherwise specified or approved, samples shall be collected in October.
2/Year	Samples shall be collected at least twice per year. Unless otherwise specified or approved, samples shall be collected in March and September.
mg/L	Milligrams per liter
ft <sup>3</sup>	Cubic feet
umhos/cm	Micromhos per centimeter
mgd	Million gallons per day
General Minerals	Analysis for General Minerals shall include at least the following:
	Alkalinity (as CaCO <sub>3</sub> )    Carbonate (as CaCO <sub>3</sub> )    Magnesium    Sodium
	Bicarbonate (as CaCO <sub>3</sub> )    Chloride    Manganese    Sulfate
	Boron    Hardness    Nitrate (NO <sub>3</sub> -N)    TDS
	Calcium    Iron    Potassium

With the exception of wastewater samples, samples for metals analysis must first be filtered using a 0.45-micron filter. If filtering in the field is not feasible, samples shall be collected in unpreserved containers and submitted to the laboratory within 24 hours with a request (on the chain of custody) to immediately filter then preserve the sample. General Minerals analyses shall be accompanied by documentation of cation/anion balance demonstrating complete analysis.

## INFORMATION SHEET

ORDER R5-2015-XXXX  
KERN RIDGE GROWERS, LLC  
LARRY R. COX AND JOAN W. COX,  
AS TRUSTEES OF THE COX FAMILY TRUST OF 2004  
DIGIORGIO FACILITY  
KERN COUNTY

### **BACKGROUND**

Kern Ridge Growers, LLC (KRG) own and operate the DiGiorgio Facility in Arvin. A Report of Waste Discharge (RWD) was submitted in September 2007 and revised RWDs were submitted in December 2007 and March 2015. Central Valley Water Board staff (staff) conducted inspections of the Facility on 10 June 2009, 28 October 2014, and 21 January 2015.

Oranges are washed, polished, and sorted. Whole carrots are washed, sorted, and processed into "baby" carrots at the Facility.

### **Wastewater**

The Facility generates three different waste streams. In this document, the waste streams are identified as: (1) Washout Area Wastewater, (2) Process Wastewater, and (3) Defrost Water. The 2015 RWD indicates the Facility generates approximately 150,000 to 190,000 gpd of Washout Area Wastewater and Process Wastewater. The volume of Defrost Water generated is unknown.

Washout Area Wastewater is generated during the initial washing and sorting of carrots as they are unloaded from trailers. It is recirculated through a series of above-ground concrete channels that act as a weir system to settle-out solids prior to discharge to two above-ground storage tanks at the LAA.

Process Wastewater is wastewater generated from orange washing and polishing, carrot washing and processing, and process equipment cleaning. This wastewater is collected in a 20,000 gallon above ground storage tank at the Facility and recirculated prior to discharge to the two above ground storage tanks at the LAA.

Defrost Water is the melted ice that formed on refrigeration equipment (evaporator tubes, coils, or plates) inside the cold storage building. Defrost Water is discharged to an underground storage tank and then pumped to a concrete sump and recirculated as makeup water in overhead spray nozzles on carrots in trailers in the concrete staging area. The water will be pumped to the weir system and mixed with Washout Area Wastewater. Storm water collected on-site is also discharged to the underground storage tank and mixed with Defrost Water.

### **Source Water**

Source water is obtained from an on-site water supply well. The nitrate as nitrogen concentration and electrical conductivity were 13 mg/L and 930 umhos/cm, respectively, in a source water sample collected by staff on 21 January 2015.

## **DISPOSAL METHODS**

### **Solids**

Solids (primarily dirt) that are separated from the Washout Area Wastewater are spread to fallow ground owned by the Discharger. Carrot peels are shipped off-site and used as cattle feed.

### **Wastewater**

From the above ground storage tanks at the LAA, the commingled wastewater is discharged to the LAA. The Discharger can irrigate the LAA with wastewater only, or mix the wastewater with irrigation water from the Arvin-Edison Water Storage District in the irrigation distribution piping. Source water is obtained from an on-site water supply well.

## **GROUNDWATER CONDITIONS**

According to the 2015 RWD, depth to groundwater in the vicinity of the Facility varies between 150 and 300 feet below ground surface (ft. bgs.). According to the *Department of Water Resources, Lines of Equal Depth to Water in Wells, Unconfined Aquifer, San Joaquin Valley, Spring 2010* map, the depth to groundwater in the vicinity of the Facility was approximately 400 ft. bgs. The regional groundwater flow direction is indeterminate, due in large part by groundwater pumping for irrigation and domestic use, and two artificial groundwater recharge areas, Sycamore Spreading Works and Tejon Spreading Works, owned and operated by the Arvin-Edison Water Storage District.

Available groundwater data in the vicinity of the Facility was obtained from the *Water Quality Portal* database provided by the United States Geological Survey, National Water Quality Monitoring Council, and the United States Environmental Protection Agency and Arvin-Edison Water Storage District water supply wells. The groundwater samples were collected at depths greater than 400 ft. bgs. The electrical conductivity, nitrate and nitrogen, and chloride concentrations of the samples ranged from 649 to 988 umhos/cm, 1.7 to 19.9 mg/L, and 29 to 95 mg/L.

## **REGULATORY CONSIDERATIONS**

### **Basin Plan**

The *Water Quality Control Plan for the Tulare Lake Basin*, Second Edition (hereafter Basin Plan) designates beneficial uses, establishes water quality objectives, contains implementation plans and policies for protecting waters of the basin, and incorporates by reference plans and policies adopted by the State Water Board. Pursuant to Water Code section 13263(a), waste discharge requirements must implement the Basin Plan. The

Facility and land application area lie within the Arvin-Wheeler Ridge Hydrologic Area (No. 557.30) of the South Valley Floor Hydrologic Unit, as depicted on interagency hydrologic maps prepared by the State Water Resources Control Board and the Department of Water Resources, revised August 1986. The Basin Plan designates the beneficial uses of underlying groundwater as municipal and domestic supply, agricultural supply, industrial service supply and industrial process supply.

### **Treatment and Control Practices**

The Discharger has implemented or will implement the following treatment and control of the discharge:

- a. Reuse of wastewater for irrigation of crops at agronomic rates;
- b. A cycle average BOD loading limitation of 100 lbs/acre/day;
- c. Resting periods between wastewater applications;
- d. Hydraulic loading rates that preclude standing water in the land application areas;
- e. Proper handling and off-site disposal of solids; and
- f. Preparation of a Salinity Control Plan and Wastewater Nutrient Management Plan.

In combination with the requirements of this Order, these treatment and control measures represent best practicable treatment and control (BPTC).

### **Antidegradation**

The antidegradation directives of State Water Board Resolution No. 68-16, "*Statement of Policy With Respect to Maintaining High Quality Waters in California*," or "Antidegradation Policy" require that waters of the State that are better in quality than established water quality objectives be maintained "consistent with the maximum benefit to the people of the State." Policy and procedures for complying with this directive are set forth in the Basin Plan.

The discharge and the potential for groundwater degradation allowed in this Order is consistent with the Antidegradation Policy since: (a) the limited degradation allowed by this Order will not result in water quality less than water quality objectives, or unreasonably affect present and anticipated beneficial uses of groundwater, (b) the Discharger have implemented BPTC to minimize degradation, and (c) the limited degradation is of maximum benefit to people of the State.

### **Title 27**

Unless exempt, the release of designated waste is subject to full containment pursuant to Title 27 requirements. Here, the discharge is exempt from the requirements of Title 27 pursuant to the wastewater exemption found at Title 27, section 20090(b).

### **California Environmental Quality Act**

The Facility has been in operation since 2007. All wastewater management systems and land application areas have been installed and are currently in use. This Order places additional requirements on the continued operation of the Facility in order to ensure protection of waters of the State. The issuance of this Order is therefore exempt from the provisions of the California Environmental Quality Act in accordance with California Code of Regulations, title 14, section 15301, which exempts the, "operation, repair, maintenance, [and] permitting...of existing public or private structures, facilities, mechanical equipment, or topographical features" from environmental review.

### **PROPOSED ORDER TERMS AND CONDITIONS**

#### **Discharge Prohibitions, Effluent Limitations, Discharge Specifications, and Provisions**

The proposed Order prohibits discharge to surface waters and drainage courses.

The proposed Order sets the following Effluent Limitations for effluent flow from the Facility:

1. The blend of wastewater, storm water, and supplemental irrigation water applied to the LAA shall not exceed a chloride concentration of 175 mg/L.

Consistent compliance with the effluent limitation for chloride is not immediately practicable. Therefore, the tentative WDRs include a compliance schedule to allow the Discharger to come into compliance with the effluent limitation. The compliance schedule also requires the Discharger to submit for Executive Officer approval and implement a Wastewater Nutrient Management Plan so the hydraulic and nutrient loading to the LAA is at agronomic rates. The compliance schedule will be for a period of three years.

Application of waste constituents to the LAAs shall be at reasonable agronomic rates to preclude creation of a nuisance or unreasonable degradation of groundwater, considering the crop, soil, climate, and irrigation management system. The annual nutritive loading of the wastewater application area, including the nutritive value of organic and chemical fertilizers, manure from non-commercial livestock, and of the wastewater, shall not exceed the annual crop demand.

#### **Monitoring Requirements**

Water Code section 13267 authorizes the Central Valley Water Board to require monitoring and technical reports as necessary to investigate the impact of a waste discharge on waters of the State. Water Code section 13268 authorizes the assessment of administrative civil liability for failure to submit required monitoring and technical reports.

The Order includes monitoring requirements for effluent. In addition, the Order requires loading calculations to the LAA for wastewater, irrigation water, organics, nutrients, and salts. This monitoring is necessary to characterize the discharge, and evaluate compliance with effluent limitations and discharge specifications prescribed in the Order.

INFORMATION SHEET ORDER NO. R5-2015-XXXX  
KERN RIDGE GROWERS, LLC AND  
LARRY R. COX AND JOAN W. COX, AS TRUSTEES OF THE COX FAMILY TRUST OF 2004  
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KERN COUNTY

-5-

**Reopener**

The conditions of discharge in the proposed Order were developed based on currently available technical information and applicable water quality laws, regulations, policies, and plans, and are intended to assure conformance with them. It may be appropriate to reopen the Order if new technical information is provided or if applicable laws and regulations change.