

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

WASTE DISCHARGE REQUIREMENTS ORDER R5-2012-XXXX
FOR
SUNNYGEM, LLC, SANDRIDGE PARTNERS, LP,
AND MCCARTHY FAMILY FARMS, INC.
SPICER CITY JUICE PROCESSING PLANT
KERN COUNTY

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

1. SunnyGem, LLC, owns and operates a seasonal fruit juicing plant (Plant) at 23145 Lerdo Highway in Spicer City, an unincorporated community in Kern County. The Plant is in the southwest corner of the southeast corner of Section 9, T28S, R22E, MDB&M, as shown on [Attachment A](#), which is attached hereto and made part of this Order by reference.
2. The Plant was regulated under the *Conditional Waiver of Waste Discharge Requirements for Small Food Processors and Wineries* (Conditional Waiver), Order No. R5-2009-0097. In August 2011, SunnyGem, LLC, and Sandridge Partners, LP (hereafter Discharger), submitted a Report of Waste Discharge (RWD) to expand operations to produce juice concentrate for pomegranates and other fruits. The expanded discharge will exceed the discharge limit of 100,000 gallons per year specified in the Conditional Waiver and, therefore, individual waste discharge requirements are necessary.
3. The discharge areas (Reuse Areas) span 10 parcels for a total of about 2,200 acres in Sections 3, 4, 5, 8, 9, 15, 16, and 21, T28S, R22E, MDB&M. About 1,400 acres of the Reuse Areas is owned by Sandridge Partners, LLC. The remaining acreage is owned by McCarthy Family Farms, Inc., which submitted a Water Reclamation Agreement with the RWD to accept up to 9 acre-feet of wastewater (or 2.9 million gallons) annually for irrigation of crops.
4. Process wastewater at the Plant consists of evaporator condensate, plant cleaning wash water, non-contact cooling water, and boiler blowdown. The RWD indicates evaporator condensate will make up more than 80 percent of the process wastewater. As the Plant is not yet in operation, the wastewater quality data below represents conservative estimates based on sampling results from comparable facilities.

<u>Constituent</u>	<u>Condensate</u>	<u>Wash Water</u>	<u>Combined Wastewater</u>
pH	3.7	4.5	-
Electrical Conductivity (EC)	68	1,800	450
Total Dissolved Solids (TDS)	45	2,500	550
Fixed Dissolved Solids (FDS)	-	500	150
Biochemical Oxygen Demand (BOD)	240	3,500	900
Nitrate as Nitrogen	< 0.4	2.2	1
Total Kjeldahl Nitrogen	< 1	52	10.4

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<u>Constituent</u>	<u>Condensate</u>	<u>Wash Water</u>	<u>Combined Wastewater</u>
Chloride	< 2	330	70
Sulfate	0.7	95	20
Calcium	< 0.5	76	15
Magnesium	< 0.5	17	5
Potassium	< 0.5	270	55
Sodium	7	230	60

5. According to the RWD, the average daily flow will be about 38,500 gallons per day (gpd) and the maximum annual flow at full capacity would be about 6.7 million gallons (based on future projections for year-round operation). The RWD proposes a maximum daily discharge of 500,000 gallons to the Reuse Areas based on a 3.5 week accumulation of wastewater to accommodate reduced winter irrigation requirements. The Discharger proposes to extend Plant operation from the current October-November season to as many as 46 weeks per year.
6. Wastewater generated at the Plant will pass through parabolic screens to remove solids and then discharge to two unlined settling/storage ponds. The ponds will have a combined storage capacity of approximately 3.8 million gallons with two feet of freeboard. Solids, including skins, pulp, and other organic waste, will be collected and transported off-site for use as cattle feed.
7. The blended water will be applied to the fields via drip, sprinkler, or flood irrigation depending on the type of crops being grown. Crops grown in the Reuse Areas include grains and alfalfa as well as pistachio and pomegranate trees. According to the RWD, the majority of the field crops will be replaced with pistachio and pomegranate trees. According to the water balance provided in the RWD, the process wastewater will supply less than 10 percent of crop requirements.
8. Source water for the Plant is provided by an on-site supply well. Sample results indicate well water has the following characteristics:

<u>Constituent</u>	<u>Units</u>	<u>Result</u>
pH	std. units	7.6
Electrical Conductivity (EC)	umhos/cm	1,440
Total Dissolved Solids (TDS)	mg/L	940
Nitrate as Nitrogen	mg/L	<0.5
Chloride	mg/L	380
Sulfate	mg/L	94
Calcium	mg/L	76

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<u>Constituent</u>	<u>Units</u>	<u>Result</u>
Magnesium	mg/L	11
Potassium	mg/L	3
Sodium	mg/L	220

9. Domestic wastewater from the Plant is discharged separately to an onsite septic tank and leachfield system, regulated by the Environmental Health Division of the Kern County Public Health Services Department.

Site-Specific Conditions

10. The Plant and Reuse Areas are in an arid climate characterized by hot dry summers and mild winters. The rainy season generally extends from November through April. Occasional rains occur during the spring and fall months, but summer months are dry. Based on publications from the Department of Water Resources and the Western Regional Climate Center, the 100-year-return-period wet year rainfall is about 12 inches, and average annual rainfall is 5.6 inches. The evaporation (Class 'A' pan) is about 110 inches. The California Irrigation Management Information System (CIMIS) database reports an annual average potential evapotranspiration (ETo) of 57.1 inches for nearby Lost Hills.
11. United States Department of Agriculture Natural Resources Conservation Service (NRCS) soil survey maps characterize approximately the top six feet of soil. Reuse Area soils are primarily Lokern clay, with some Buttonwillow clay in the Reuse Areas near Delfino Road at the north end and Vlansik Road at the south end. The soils have a saturated hydraulic conductivity between 0.06 and 0.20 inches per hour. Lokern clay is moderately well drained and Buttonwillow clay is somewhat poorly drained. Both soils are nonsaline to very slightly saline, moderately alkaline (pH around 8.0), and have an irrigated land capability classification of II-s.
12. The Plant and Reuse Areas are surrounded on all sides by farmland and associated irrigation and drainage canals. According to a 2010 Kern County Department of Agriculture and Measurement Standards crop survey, crops grown within about two miles of the Plant include pistachio, pomegranate, wheat for fodder, alfalfa, sudangrass, cotton, and olives.
13. Federal Emergency Management Agency (FEMA) map numbers 06029C1225E and 06029C1725E for Kern County (effective 28 September 2008) show an approximately 40-acre portion of the Reuse Areas along the West Side Canal is in an area subject to flooding by a 100-year flood (the 1% annual chance flood).

Groundwater Considerations

14. According to Department of Water Resources Groundwater Elevation Maps (1999 to 2001), unconfined groundwater below areas of perched groundwater generally occurs at depths ranging from 25 to 50 feet below ground surface (bgs) and flows to the northeast. Groundwater quality in this unconfined zone has an EC of 1,000 to 3,000 umhos/cm and a

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TDS of 1,000 to 1,500 mg/L (Kern County Health Department, *Groundwater Pollutant Study*, 1980).

15. Groundwater maps developed by Kern County Water Agency show that the site is within an area of shallow, perched groundwater. Depth to first-encountered groundwater within this perched zone ranges from 5 to 15 feet bgs. According to Kern County Water Agency, groundwater within this shallow zone is of poor quality, with EC concentrations in the area ranging from 2,700 to 10,000 umhos/cm (samples collected in 2010 from several piezometers in the vicinity of the site).
16. Due to issues with perched groundwater, some of the Reuse Areas have tile drain systems installed. The locations and designs of the tile drains are not well documented. A drainage collection pump station fills by gravity and transfers drainage water to a pond used to mix with fresh irrigation water. Recent conversion of irrigation systems to low-flow sprinklers reportedly limits tile drainage flow to this system to the point that it is no longer used. However, the Discharger intends to maintain the pump station and pond.
17. Tile drainage water from drains underlying Reuse Areas may contain waste constituents from the discharge; however, the discharge is not expected to decrease the quality of tile drain effluent. The table below presents analytical results from a sample collected from the tile drainage collection sump (generally considered representative of perched groundwater quality).

<u>Constituent</u>	<u>Units</u>	<u>Result</u>
pH	std. units	7.3
Electrical Conductivity (EC)	umhos/cm	8,500
Total Dissolved Solids (TDS)	mg/L	6,000
Nitrate as Nitrogen	mg/L	9.7
Chloride	mg/L	2,300
Sulfate	mg/L	1,400
Calcium	mg/L	620
Magnesium	mg/L	91
Potassium	mg/L	2.1
Sodium	mg/L	1,400

18. The tile drain sample also contained elevated aluminum, arsenic, and iron (610 ug/L, 46 ug/L, and 440 ug/L, respectively). Aluminum and iron concentrations exceed secondary Maximum Contaminant Levels (MCLs) of 200 ug/L and 300 ug/L. Arsenic exceeds the primary MCL of 10 ug/L. These results are indicative of shallow groundwater quality in the area.

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Basin Plan, Beneficial Uses, and Water Quality Objectives

19. The *Water Quality Control Plan for the Tulare Lake Basin, Second Edition, revised January 2004* (Basin Plan) designates beneficial uses, establishes narrative and numerical water quality objectives, contains implementation plans and policies for protecting all waters of the Basin, and incorporates, by reference, plans and policies of the State Water Board. In accordance with Water Code section 13263(a), these requirements implement the Basin Plan.
20. The Plant and Reuse Areas lie within Detailed Analysis Unit (DAU) 255, within the Kern County Basin Hydrologic Unit. The Basin Plan identifies the beneficial uses of groundwater in the DAU as municipal and domestic supply, agricultural supply, industrial service supply, and wildlife habitat.
21. The Plant and discharge are in the Semitropic Hydrologic Area (No. 558.70) 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 in August 1986.
22. The Basin Plan establishes narrative water quality objectives for Chemical Constituents, Taste and Odors, and Toxicity. The Toxicity objective, in summary, 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. Quantifying a narrative water quality objective requires a site-specific evaluation of those constituents that have the potential to impact water quality and beneficial uses.
23. The Basin Plan Chemical Constituents water quality objective requires, at a minimum, waters designated as domestic or municipal supply to meet the MCLs specified in Title 22 of CCR. 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.
24. 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 there is a long-term solution to the salt imbalance. Until then, 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 of the effluent discharged to land 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 boron content of 1.0 mg/L.

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25. 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 recycled water.
26. This Order prohibits discharge of wastewater and stormwater containing wastewater into surface water.

Antidegradation Analysis

27. State Water Board Resolution No. 68-16, the *Policy with Respect to Maintaining High Quality Water of the State* (the "Antidegradation Policy"), prohibits the Board from permitting the 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.
28. The discharge is not expected to cause groundwater degradation, since naturally-occurring groundwater quality is poor, and:
 - a. For organics, with an estimated 5-day biochemical oxygen demand (BOD) of 900 mg/L for the combined waste stream, the cycle average BOD loading rate at 0.5 mgd will be about 2 lb/acre/day. To prevent creation of nuisance conditions, the USEPA recommends application of no more than 100 lbs BOD/acre/day in publication No. 625/3-77-007, *Pollution Abatement in the Fruit and Vegetable Industry*. The RWD proposes to implement Best Management Practices (BMPs) including; sufficient resting periods between applications (approximately three weeks), ceasing discharge if the soils become saturated, and discing or raking between applications in order to minimize the potential for reducing conditions to develop. This Order requires the Discharger to implement Reuse Area monitoring to demonstrate adequate wastewater distribution to achieve the anticipated low BOD loading rates. With the low BOD loading rate and the implementation of the BMPs described, the discharge is not expected to cause groundwater degradation or nuisance conditions due to organic loading.
 - b. For nitrogen, historical groundwater data does not show nitrate issues in groundwater beneath the site (Kern County Water Agency maps, 1975/1979). A sample collected from an on-site tile drain in 2010 had a nitrate (as nitrogen) concentration of 9.7 mg/L.

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The Maximum Contaminant Level is 10 mg/L. The limited data for the effluent indicates that the average total nitrogen concentration of the combined discharge will be about 12 mg/L. Given the potential for nitrogen losses within the storage/settling ponds and an expected annual nitrogen loading to the Reuse Areas of less than 1 lb/acre-year, the nitrogen concentration of the discharge is not expected to cause degradation of groundwater for nitrates.

- c. For salinity, historical groundwater data shows that the pre-1980 EC of unconfined groundwater in the vicinity of the site ranged from 1,000 to 3,000 umhos/cm ([Finding 14](#)). Analytical results for recent samples of the shallow groundwater zone in the vicinity of the site show groundwater EC ranging from 2,700 to 10,000 umhos/cm ([Finding 15](#)). With an estimated EC of about 450 umhos/cm, the combined discharge of high quality condensate water and process wastewater will be of better quality than the underlying groundwater. Soils are classified as being low in salt ([Finding 11](#)). The discharge will not cause degradation of groundwater for salinity.

Treatment and Control Practices

29. The Discharger will provide treatment and control of the discharge that incorporates:
 - a. Use of chemical products according to intended use described on labels;
 - b. Use of condensate generated from the juice processing to offset supply water for other processes, including makeup water for boilers, cooling towers, and the air conditioning system, and for equipment wash water.
 - c. Settling of suspended solids in the wastewater pond;
 - d. Solids management required by [Solids Specifications E.1 through E.4](#) of this Order;
 - e. Recycling of wastewater for crop irrigation;
 - f. Implementation of the Salinity Control Plan required by [Provision G.14](#) of this Order; and
 - g. Source water and discharge monitoring required by Monitoring and Reporting Program [R5-2012-XXXX](#), a part of this Order.
30. The treatment and control measures described above in [Finding 29](#) represent a level of water quality protection measures consistent with those employed by comparable food processing facilities in the Central Valley, and the Board finds that these treatment and control measures represent BPTC for the Plant.

Antidegradation Conclusions

31. This Order establishes terms and conditions to ensure that the discharge does not unreasonably affect present and anticipated future beneficial uses of groundwater or result in groundwater quality worse than background or the water quality objectives set forth in the Basin Plan.

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32. Economic prosperity of valley communities and associated industry is of maximum benefit to the people of the state, and, therefore, provides sufficient reason to allow limited groundwater degradation to occur. Projections based on available data do not anticipate groundwater degradation to result from the discharge. However, should it occur, this degradation will not result in a violation of the water quality standards contained in the Basin Plan.
33. These WDRs are consistent with the Antidegradation Policy since: (a) the Discharger has implemented BPTC to minimize degradation, (b) the limited degradation allowed by this Order will not unreasonably affect present and anticipated future beneficial uses of groundwater, or result in water quality less than water quality objectives, and (c) the limited degradation is of maximum benefit to people of the State.

CEQA

34. The Plant lies in an area zoned exclusively for agriculture, which allows for fruit, vegetable, and plant product processing facilities. The Kern County zoning ordinance requires only a ministerial plot plan review for construction and operation of such processing facilities. Because no discretionary permit was required, County staff considered the project exempt from the California Environmental Quality Act (CEQA). The County did not perform an Initial Study pursuant to CEQA (Cal. Code Regs., tit. 14, § 15063.).
35. As part of the permitting process for a boiler at the Plant, the San Joaquin Valley Air Pollution Control District (Air District) indicated that it has discretionary approval power over the project via its Permits Rule (Rule 2010) and New Source Review Rule (Rule 2201). However, Air District engineering staff found that compliance with District rules and permit conditions would reduce Stationary Source emissions from the project to levels below the District's significance thresholds for criteria pollutants. The Air District has determined that no additional CEQA findings are required.
36. The juice processing Plant will have potential to impact the environment as a result of the Central Valley Water Board discretionary action to adopt this Order. As such, the Central Valley Water Board is the lead agency for purposes of CEQA. A Mitigated Negative Declaration for this project was submitted to the State Clearing House for distribution on 6 July 2012. The Central Valley Water Board adopted the final Mitigated Negative Declaration on **DATE**.
37. This Order includes requirements to assure compliance with the Water Code and the Tulare Lake Basin Plan. This Order implements measures necessary to lessen or avoid significant adverse environmental impacts from the expansion project to less than significant levels, including:
 - a. A limit on the monthly average wastewater flow to no more than 38,500 gallons per day and the maximum daily flow to no more than 500,000 gallons per day.

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- b. The concentration of dissolved oxygen in the wastewater ponds must not fall below 1.0 mg/L. Pond freeboard of at least 2 feet must be maintained, plus sufficient additional freeboard in October to store wastewater in addition to wet season rainfall.
- c. Wastewater application to the Reuse Areas must be consistent with agronomic rates and discharge to any portion of the Reuse Areas where soil is saturated will be prohibited.
- d. Solids produced at the Plant must be properly managed and disposed of.
- e. Within 180 days of adoption of the Waste Discharge Requirements, the project proponent must have prepared and begun implementation of a salinity source control plan.

Designated Waste and Title 27

38. California Code of Regulations, title 27 (hereafter Title 27) contains regulatory requirements for the treatment, storage, processing, and disposal of solid waste, which includes designated waste, as defined by Water Code section 13173. However, Title 27 exempts certain activities from its provisions. Discharges regulated by this Order are exempt from Title 27 pursuant to a provision that exempts wastewater under specific conditions. This exemption, found at Title 27, section 20090, is described below:
- (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 regional water quality control board has issued WDRs, reclamation requirements, or waived such issuance;
 - (2) The discharge is in compliance with 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.
39. The discharge authorized herein is exempt from the requirements of Title 27 in accordance with Title 27, section 20090(b) because:
- a. The Central Valley Water Board is issuing WDRs.
 - b. The discharge is in compliance with the Basin Plan, and;
 - c. The treated effluent discharged to the Reuse Areas does not need to be managed as hazardous waste.
40. The discharge to the cropped Reuse Areas authorized herein is also exempt from the requirements of Title 27 in accordance with Title 27, section 20090(h) because recycling the water and nutrients in the wastewater constitutes recycling of material salvaged from waste.

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Other Regulatory Considerations

41. The annual fee for the discharge is based on a Threat to Water Quality rating of 3 and Complexity of B (Cal. Code Regs., tit. 23, § 2200.). The Threat rating is based on the potential of the discharge to degrade water quality without violating water quality objectives, or cause a minor impairment of designated beneficial uses. The Complexity rating is based on the use of hydrosieves, the wastewater ponds, and reuse of the wastewater, which are forms of physical and biological treatment that add complexity to staff assessment.

General Findings

42. 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.

43. Water Code section 13267(b) states that:

In conducting an investigation specified in subdivision (a), the Central Valley Water 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 Central Valley Water 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 Central Valley Water 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.

44. The technical reports required by this Order and monitoring reports required by the attached MRP R5-2012-XXXX are necessary to assure compliance with these waste discharge requirements. The Discharger operates the Plant that discharges the waste subject to this Order.
45. The DWR sets standards for the construction and destruction of groundwater wells, as described in California Well Standards Bulletin 74-90 (June 1991) and Water Well Standards: State of California Bulletin 94-81 (December 1981). These standards, and any more stringent standards adopted by the State or county pursuant to Water Code section 13801, apply to all monitoring wells.
46. 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 conditions of discharge in this Order.

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Public Notice

47. The Discharger and interested agencies and persons have been notified of the intent to prescribe waste discharge requirements for this discharge, and they have been provided an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
48. All comments pertaining to the discharge were heard and considered in a public meeting.

IT IS HEREBY ORDERED that, pursuant to sections 13263 and 13267 of the Water Code, McCarthy Family Farms, Inc., SunnyGem LLC, and Sandridge Partners LLC, their agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the Water Code and regulations adopted thereunder, shall comply with the following:

A. Prohibitions

1. Discharge of waste, including storm water containing waste, to surface waters or surface water drainage courses is prohibited.
2. Bypass or overflow of untreated wastes, except as allowed by [Standard Provisions E.2](#) in *Standard Provisions and Reporting Requirements for Waste Discharge Requirements*, dated 1 March 1991, is prohibited.
3. Discharge of waste classified as 'hazardous', as defined in section 2521(a) of title 23, CCR, section 2510 et seq., is prohibited. Discharge of waste classified as 'designated', as defined in Water Code section 13173, in a manner that causes violation of groundwater limitations, is prohibited.
4. Discharge of wastewater in a manner or location other than that described herein is prohibited.
5. Storage of solids on areas without means to prevent leachate generation and infiltration into the ground is prohibited.

B. Effluent Limitations

1. The discharge shall not have a pH less than 4.5 or greater than 9.0.
2. The 12-month rolling average EC of the discharge shall not exceed the 12-month rolling average EC of the source water plus 500 umhos/cm. Compliance with this effluent limitation shall be determined monthly.

C. Discharge Specifications

1. The monthly discharge flow rate shall not exceed an average of 38,500 gallons per day (gpd). The daily discharge flow rate shall not exceed a maximum of 500,000 gpd.

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2. 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 Groundwater Limitations of this Order.
3. Wastewater treatment, storage, and disposal shall not cause pollution or a nuisance as defined by Water Code section 13050.
4. The discharge shall remain within the permitted waste treatment/containment structures and land application areas at all times.
5. The Discharger shall operate all systems and equipment to optimize the quality of the discharge.
6. All conveyance, treatment, storage, and disposal units shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.
7. Objectionable odors shall not be perceivable beyond the limits of the Plant or the Reuse Areas at an intensity that creates or threatens to create nuisance conditions.
8. Wastewater storage ponds shall have sufficient capacity to accommodate allowable wastewater flow and design seasonal precipitation and ancillary inflow and infiltration during the winter. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns.
9. On or about 1 October of each year, the available storage pond capacity shall at least equal the volume necessary to comply with [Discharge Specification C.8](#).
10. All ponds shall be managed to prevent breeding of mosquitoes. In particular,
 - a. An erosion control plan should assure that coves and irregularities are not created around the perimeter of the water surface.
 - b. Weeds shall be minimized through control of water depth, harvesting, and herbicides.
 - c. Dead algae, vegetation and other debris shall not accumulate on the water surface.
 - d. The Discharger shall consult and coordinate with the local Mosquito Abatement District to minimize the potential for mosquito breeding as needed to supplement the above measures.
11. The Discharger shall monitor solids accumulation in the wastewater treatment/storage ponds, and shall periodically remove solids as necessary to maintain adequate treatment and storage capacity.

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D. Reuse Area Specifications

1. For the purpose of this Order, "Reuse Area" means an area with defined boundaries where wastewater is used or discharged.
2. The perimeter of the Reuse Areas shall be graded to prevent ponding along public roads or other public areas and prevent runoff or overspray onto adjacent properties not owned or controlled by the Discharger.
3. Discharger shall maintain a 10-foot setback between the Reuse Areas and the leach field for the onsite domestic wastewater system serving the Plant.
4. Crops shall be grown on the Reuse Areas. Crops shall be selected based on nutrient uptake, consumptive use of water, and irrigation requirements to maximize crop uptake.
5. Hydraulic loading of wastewater and irrigation water shall be at reasonable agronomic rates designed to minimize the percolation of wastewater and irrigation water below the root zone (i.e., deep percolation).
6. Application of waste constituents shall be at reasonable agronomic rates to preclude creation of a nuisance or degradation of groundwater, considering the crop, soil, climate, and irrigation management. The annual nutritive loading to the Reuse Areas, including the nutritive value of organic and chemical fertilizers and of the wastewater, shall not exceed the annual crop demand.
7. The resulting effect of the discharge on soil pH shall not exceed the buffering capacity of the soil profile.
8. The Discharger may not discharge process wastewater to the Reuse Areas within 24 hours of a storm event of measurable precipitation or when soils are saturated.
9. The Reuse Areas shall be managed to prevent breeding of mosquitoes. More specifically:
 - a. All applied irrigation water must infiltrate completely within 48-hours;
 - b. Ditches not serving as wildlife habitat should be maintained free of emergent, marginal, and floating vegetation; and
 - c. Low-pressure and unpressurized pipelines and ditches accessible to mosquitoes shall not be used to store recycled water.

E. Solids Specifications

1. Any handling and storage of residual solids on property of the Discharger shall be temporary, and 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.

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2. Fruit skins, pulp and other solids shall be removed from sumps, screens, wastewater ponds, etc. as needed to ensure optimal operation and adequate hydraulic capacity. Solids drying operations, if any, shall be designed and operated to prevent leachate generation.
3. Collected screenings and other solids removed from the liquid waste shall be disposed of in a manner approved by the Executive Officer and consistent with Title 27. Removal for further treatment, disposal, or reuse at sites (i.e., landfill, rendering plants, composting sites, soil amendment sites) operated in accordance with valid waste discharge requirements adopted by a regional water quality control board will satisfy this specification.
4. Any proposed change in solids use or disposal practice shall be reported in writing to the Executive Officer at least 90 days in advance of the change.

F. Groundwater Limitations

1. Release of waste constituents from any treatment, reclamation, or storage component associated with the discharge shall not cause or contribute to groundwater:
 - a. Containing constituent concentrations in excess of the concentrations specified below or natural background quality, whichever is greater:
 - (i) Nitrate (as N) of 10 mg/L.
 - (ii) For constituents identified in Title 22, the MCLs quantified therein.
 - b. Containing taste or odor-producing constituents, toxic substances, or any other chemical constituents in concentrations that cause nuisance or adversely affect beneficial uses.

G. Provisions

1. The Discharger shall comply with the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements*, dated 1 March 1991 (Standard Provisions), which are part of this Order.
2. The Discharger shall comply with MRP R5-2012-XXXX, which is part of this Order, and any revisions thereto as adopted by the Central Valley Water Board or approved by the Executive Officer.
3. 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.
4. In the event of any change in control or ownership of land or waste treatment and storage facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be

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immediately forwarded to the appropriate Central Valley Water Board office (currently, the Fresno office).

5. To assume operation 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 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.
6. The Discharger shall keep at the Plant a copy of this Order, including its MRP, Information Sheet, attachments, and Standard Provisions, for reference by operating personnel. Key operating personnel shall be familiar with its contents.
7. The Discharger must comply with all conditions of this Order, including timely submittal of technical and monitoring reports as directed by the Executive Officer. Accordingly, the Discharger shall submit to the Central Valley Water Board on or before each report due date the specified document or, if an action is specified, a written report detailing evidence of compliance with the date and task. If noncompliance is being reported, the reasons for such noncompliance shall be stated, plus an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Central Valley Water Board by letter 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.
8. The Discharger must 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 include 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.
9. The Discharger shall use the best practicable cost-effective control technique(s) including proper operation and maintenance, to comply with this Order.
10. The Discharger shall maintain and operate surface impoundments sufficiently to protect the integrity of containment levees and prevent overtopping or overflows. Unless a California registered civil engineer certifies (based on design, construction, and conditions of operation and maintenance) that less freeboard is adequate, the operating freeboard shall never be less than two feet (measured vertically). As a means of management and to discern compliance with this Provision, the Discharger shall install and maintain a permanent marker with

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calibration that indicates the water level at the design capacity and enables determination of available operational freeboard.

11. As a means of discerning compliance with [Discharge Specification C.7](#), the dissolved oxygen (DO) content in the upper one foot of any wastewater pond shall not be less than 1.0 mg/L for three consecutive weekly sampling events. If the DO in any single pond is below 1.0 mg/L for three consecutive sampling events, the discharger shall report the findings to the Regional Water Board in writing within 10 days and shall include a specific plan to resolve the low DO results within 30 days.
12. The Discharger shall submit the technical reports and work plans required by this Order for Central Valley Water Board staff consideration and incorporate comments they may have in a timely manner, as appropriate. The Discharger shall proceed with all work required by the following provisions by the due dates specified.
13. All technical reports and work plans required herein 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. As required by these laws, completed technical reports and work plans must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work. All reports required herein are required pursuant to Water Code section 13267.
14. **By 29 January 2013**, SunnyGem shall submit a Salinity Control Plan, with salinity source reduction goals and an implementation time schedule for Executive Officer approval. The control plan should identify any additional methods that could be used to further reduce the salinity of the discharge to the maximum extent feasible, include an estimate on load reductions that may be attained through the methods identified, and provide a description of the tasks, cost, and time required to investigate and implement various elements in the salinity control plan. The Discharger shall implement the plan in accordance with the approved schedule.
15. If the Central Valley Water Board determines that waste constituents in the discharge have reasonable potential to cause or contribute to an exceedance of an objective for groundwater, this Order may be reopened for consideration of addition or revision of appropriate numerical effluent or groundwater limitations for potential constituents.
16. 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, and may issue a complaint for administrative civil liability, or may take other enforcement actions. Failure to comply with this Order or with the WDRs 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

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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, section 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 filling petitions may be found on the Internet at:

http://www.waterboards.ca.gov/public_notices/petitions/water_quality/

or will be provided upon request.

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

PAMELA C. CREEDON, Executive Officer

Order Attachments:

A Site Location Map
Monitoring and Reporting Program R5-2012-XXXX
Information Sheet
Standard Provisions (1 March 1991)

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM R5-2012-XXXX
FOR
SUNNYGEM, LLC, SANDRIDGE PARTNERS, LP,
AND MCCARTHY FAMILY FARMS, INC.
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This Monitoring and Reporting Program (MRP) is required pursuant to Water Code section 13267. This MRP also serves as a Mitigation Monitoring Program for the purposes of compliance with the California Environmental Quality Act Guidelines (Cal. Code Regs., tit. 14, § 15370.).

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) 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 California Department of Public Health's 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 8](#).

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POND INFLUENT MONITORING

Discharge samples shall be collected at a point in the system after commingling of all the waste streams and before discharge to the wastewater ponds. Time of collection of the sample shall be recorded. Discharge monitoring shall include at least the following:

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
Daily	Flow	mgd	Continuous
Daily	pH	pH Units	Grab
Monthly	BOD ₅	mg/L	Grab
Monthly	TSS	mg/L	Grab

POND EFFLUENT MONITORING

Discharge samples shall be collected at a point in the wastewater disposal system after the pond, but prior to commingling of wastewater with irrigation water or discharge to the Reuse Areas. Time of collection of the sample shall be recorded. Discharge monitoring shall include at least the following:

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
Daily	Flow	mgd	Continuous
Daily	pH	pH Units	Grab
Monthly	EC	umhos/cm	Grab
Quarterly	BOD ₅	mg/L	Grab
Quarterly	TSS	mg/L	Grab
Quarterly	TDS	mg/L	Grab
Quarterly	FDS	mg/L	Grab
Quarterly	Sodium	mg/L	Grab
Quarterly	Chloride	mg/L	Grab
Quarterly	Nitrate as N	mg/L	Grab
Quarterly	TKN	mg/L	Grab
Quarterly	Ammonia	mg/L	Grab
Quarterly	Total Nitrogen	mg/L	Computed
Seasonally ¹	General Minerals	mg/L	Grab

¹ One sample shall be collected for each processing season. For example, two samples shall be collected in a year when the Plant produces juice from pears and pomegranates (one sample for each season).

POND MONITORING

Permanent markers (e.g. staff gauges) shall be placed in all ponds. The markers shall have calibrations indicating the water level at design capacity and available operational freeboard. For each wastewater pond, monitoring shall include at least the following:

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<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
Weekly	Freeboard	Feet ¹	Grab
Weekly	Dissolved Oxygen	mg/L	Grab
Annually ²	Solids Depth ³	Feet ¹	Grab

¹ To nearest tenth of a foot

² In October

³ Thickness of settled solids at the bottom of the pond

The Discharger shall inspect the condition of wastewater ponds weekly and record observations in a bound logbook. Notations shall include observations of whether weeds are developing in the water or along the bank, and their location; whether grease, dead algae, vegetation, scum, or debris are accumulating on the pond surface and their location; whether odors are emanating from the pond and their strength (e.g. pungent sour smell noticeable from 100 feet away, mild organic odor at pond surface, etc.); whether burrowing animals or insects are present; and the color of the wastewater (e.g., dark green, dull green, yellow, gray, tan, brown, etc.). A summary of the entries made in the log shall be included in the subsequent monitoring report.

SOURCE WATER MONITORING

For each source (either well or surface water supply), the Discharger shall calculate the flow-weighted average concentrations for the specified constituents.

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
Monthly	Flow-Weighted EC	umhos/cm	Computed Average
Annually	General Minerals	mg/L	Grab

REUSE AREA MONITORING

The Discharger shall perform the following routine monitoring and loading calculations for each discrete irrigation area within the Reuse Areas. 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>
Daily	Application Area	acres	n/a
Daily	Wastewater flow	gallons	Estimated
Daily	Wastewater loading	inches/day	Calculated
Daily	Supplemental irrigation	gallons	Estimated
Daily	Precipitation	inches	Rain gage ¹
Monthly	Total Hydraulic Loading ²	inches/acre-month	Calculated

¹ National Weather Service or CIMIS data from the nearest weather station is acceptable.

² Combined loading from wastewater, irrigation water, and precipitation.

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In addition, the Discharger shall inspect the Reuse Areas on a weekly basis. Evidence of erosion, field saturation, runoff, or the presence of nuisance conditions (i.e., flies, ponding, etc.) shall be noted in field logs and included as part of the quarterly monitoring reports.

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.

A transmittal letter shall accompany each monitoring report. The transmittal letter shall discuss any violations that occurred during the reporting period and all actions taken or planned for correcting violations, such as operation or Plant modifications. If the Discharger has previously submitted a report describing corrective actions or a time schedule for implementing the corrective actions, reference to the previous correspondence is satisfactory.

The following information is to be included on all monitoring and annual reports, as well as any report transmittal letters, submitted to the Central Valley Water Board:

SunnyGem, LLC, Sandridge Partners, LP,
and McCarthy Family Farms, Inc.
Spicer City Juice Processing Plant
R5-2012-XXXX
Contact Information (telephone number and email)

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.

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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.

At any time henceforth, the State or Central Valley Regional Water Board may notify the Discharger to electronically submit 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. Until such notification is given, the Discharger shall submit hard copy monitoring reports.

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

Wastewater reporting

1. The results of pond influent and effluent monitoring specified on [page 2](#), and pond monitoring on [pages 2 and 3](#).
2. For each month of the quarter, calculation of the maximum daily flow, monthly average flow, and cumulative annual flow.
3. For each month of the quarter calculate the 12-month rolling average EC of the discharge and compare it to the 12-month average EC of the source water.
4. A summary of the notations made in the pond monitoring log during each quarter. The entire contents of the log do not need to be submitted.

Source water reporting

1. The results of monthly monitoring for EC and quarterly monitoring for General Minerals specified on [page 3](#). Results must include supporting calculations.

Reuse Area reporting

1. The results of the routine monitoring and loading calculations specified on [pages 3](#).
2. For each month of the quarter, calculation of the monthly hydraulic load for wastewater and supplemental irrigation water in millions of gallons to each discrete irrigation area.
3. A summary of the notations made in the Reuse Area monitoring log during each quarter. The entire contents of the log do not need to be submitted.

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

Wastewater treatment facility information

1. The names and general responsibilities of all persons in charge of wastewater management.

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2. The names and telephone numbers of persons to contact regarding the discharge for emergency and routine situations.
3. 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).
4. A summary of any changes in processing that might affect waste characterization and/or discharge flow rates.

Solids reporting

1. Annual production totals by type (e.g., pond sludge versus culled fruit), in dry tons or cubic yards.
2. A description of disposal methods, including the following information related to the disposal methods used. If more than one method is used, include the percentage disposed of by each method.
 - a. For landfill disposal, include: the name and location of the landfill, and the Order number of WDRs that regulate it.
 - b. For land application, include: the location of the site, and the Order number of any WDRs that regulate it.
 - c. For incineration, include: the name and location of the site where incineration occurs, the Order number of WDRs that regulate the site, the disposal method of ash, and the name and location of the facility receiving ash (if applicable).
 - d. For composting, include: the location of the site, and the Order number of any WDRs that regulate it.
 - e. For animal feed, include: the location of the site, and the Order number of any WDRs that regulate it.

Reuse Area reporting

1. The type of crop(s) grown in the Reuse Areas, planting and harvest dates, and the quantified nitrogen and fixed dissolved solids uptakes (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:

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- 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 daily and cycle average BOD loading rates.
 - 5. The total pounds of nitrogen applied to the Reuse Areas, as calculated from the sum of the monthly loadings, and the total annual nitrogen loading to the Reuse Areas in lbs/acre-year.
 - 6. The total pounds of fixed dissolved solids (FDS) that have been applied to the Reuse Areas, as calculated from the sum of the monthly loadings, and the total annual FDS loading to the Reuse Areas in lbs/acre-year.

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)

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GLOSSARY

BOD ₅	Five-day biochemical oxygen demand		
CBOD	Carbonaceous BOD		
DO	Dissolved oxygen		
EC	Electrical conductivity at 25° C		
FDS	Fixed dissolved solids		
NTU	Nephelometric turbidity unit		
TKN	Total Kjeldahl nitrogen		
TDS	Total dissolved solids		
TSS	Total suspended solids		
Continuous	The specified parameter shall be measured by a meter continuously.		
24-Hour Composite	Samples shall be a flow-proportioned composite consisting of at least eight aliquots.		
Daily	Samples shall be collected every day.		
Twice Weekly	Samples shall be collected at least twice per week on non-consecutive days.		
Weekly	Samples shall be collected at least once per week.		
Twice Monthly	Samples shall be collected at least twice per month during non-consecutive weeks.		
Monthly	Samples shall be collected at least once per month.		
Bimonthly	Samples shall be collected at least once every two months (i.e., six times per year) during non-consecutive months.		
Quarterly	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.		
Semiannually	Samples shall be collected at least once every six months (i.e., two times per year). Unless otherwise specified or approved, samples shall be collected in April and October.		
Annually	Samples shall be collected at least once per year. Unless otherwise specified or approved, samples shall be collected in October.		
mg/L	Milligrams per liter		
mL/L	Milliliters [of solids] per liter		
ug/L	Micrograms per liter		
umhos/cm	Micromhos per centimeter		
mgd	Million gallons per day		
MPN/100 mL	Most probable number [of organisms] per 100 milliliters		
General Minerals	Analysis for General Minerals shall include at least the following:		
	Alkalinity	Chloride	Sodium
	Bicarbonate	Hardness	Sulfate
	Calcium	Magnesium	TDS
	Carbonate	Potassium	
	General Minerals analyses shall be accompanied by documentation of cation/anion balance.		

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Table 1. Reuse Area Monitoring

Wastewater Reuse Monitoring Data For Year: _____ Parcel No. _____								
_____ of _____ acres								
Month	Crop	Water application				Nitrogen application		
		Water required	Effluent used	Other water used	Total irrigation water	As fertilizer	As effluent*	Total nitrogen applied
		(AF)	(AF)	(AF)	(AF)	(lbs/acre)	(lbs/acre)	(lbs/acre)
October								
November								
December								
Subtotal:								
January								
February								
March								
Subtotal:								
April								
May								
June								
Subtotal:								
July								
August								
September								
Subtotal:								
Annual Total:								
* calculated as (AF effluent/acre) x (2.72) x (X mg/L total nitrogen) = lbs nitrogen/acre								

INFORMATION SHEET

INFORMATION SHEET - ORDER R5-2012-XXXX

SUNNYGEM, LLC, SANDRIDGE PARTNERS, LP, AND MCCARTHY FAMILY FARMS, INC.
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Background

In August 2011, SunnyGem and Sandridge Partners LLC (hereafter Dischargers) submitted a Report of Waste Discharge (RWD) to expand operations at the Spicer City Juice Processing Facility. In August 2009, Buena Vista Juice Company, LLC and Sandridge Partners, LLC, applied for coverage under the *Conditional Waiver of Waste Discharge Requirements for Small Food Processors and Wineries* (Conditional Waiver), Order No. R5-2009-0097. The Notice of Applicability issued in December 2009 authorized the seasonal discharge of 80 to 90 thousand gallons per year of pomegranate processing wastewater from the Plant to land. The discharge was delivered by a water truck to 280 acres of almonds owned by Sandridge Partners, LLC. The expanded discharge proposed in 2011 exceeds the discharge limit of 100,000 gallons per year specified in the Conditional Waiver.

Process wastewater at the Plant will consist of evaporator condensate, plant cleaning wash water, non-contact cooling water, and boiler blowdown. According to the RWD, the evaporator condensate will make up more than 80 percent of the process wastewater. As the Plant is not yet in operation, the wastewater quality data below represents conservative estimates based on sampling results from comparable facilities.

<u>Constituent</u>	<u>Condensate</u>	<u>Wash Water</u>	<u>Combined Wastewater</u>
pH	3.7	4.5	-
Electrical Conductivity (EC)	68	1,800	450
Total Dissolved Solids (TDS)	45	2,500	550
Fixed Dissolved Solids (FDS)	-	500	150
Biochemical Oxygen Demand (BOD)	240	3,500	900
Nitrate as Nitrogen	< 0.4	2.2	1
Total Kjeldahl Nitrogen	< 1	52	10.4
Chloride	< 2	330	70
Sulfate	0.7	95	20
Calcium	< 0.5	76	15
Magnesium	< 0.5	17	5
Potassium	< 0.5	270	55
Sodium	7	230	60

According to the RWD, the average daily flow will be about 38,500 gallons per day (gpd) and the maximum annual flow at full capacity would be about 6.7 million gallons (based on future projections for year-round operation). The RWD proposes a maximum daily discharge of 500,000 gallons to the Reuse Areas based on a 3.5 week accumulation of wastewater to accommodate reduced winter

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irrigation requirements. The Discharger proposes to extend Plant operation from the current October-November season to as many as 46 weeks per year.

Source water for the Plant is provided by an on-site supply well. Analytical data for the source water provided in the RWD include: pH of 7.6, EC of 1,410 umhos/cm, TDS of 940 mg/L, bicarbonate of 47 mg/L, calcium of 76 mg/L, chloride of 380 mg/L, nitrate as N of < 0.5 mg/L, magnesium of 11 mg/L, potassium of 3 mg/L, sodium of 220 mg/L, and sulfate of 94 mg/L.

Based on the assessed acreage of each parcel, the total land available in the Reuse Areas is 2,167 acres. The table below presents Reuse Area parcel and ownership information from the RWD.

APN	Acres	Owner	Proposed Use
086-080-03	45	Sandridge Partners, LP	Plant, Discharge for landscape irrigation
086-080-04	198	McCarthy Family Farms, Inc.	Discharge for pomegranate irrigation
086-080-01	116	McCarthy Family Farms, Inc.	Discharge for pomegranate irrigation
086-070-06	38	McCarthy Family Farms, Inc.	Discharge for pomegranate irrigation
086-040-06	33	Sandridge Partners, LP	Discharge for field crop irrigation
086-030-02	616	Sandridge Partners, LP	Discharge for field crop irrigation
086-020-01	438	Sandridge Partners, LP	Discharge for field crop irrigation
086-160-02	211	McCarthy Family Farms, Inc.	Discharge for field crop irrigation
086-160-04	322	Sandridge Partners, LP	Discharge for field crop irrigation
086-150-03	45	McCarthy Family Farms, Inc.	Discharge for field crop irrigation
086-190-02	150	McCarthy Family Farms, Inc.	Discharge for field crop irrigation

Groundwater Conditions

The Plant and Reuse Areas lie in the southwest San Joaquin Valley in an area where groundwater is naturally high in sodium, chloride, and other dissolved constituents. According to DWR maps Groundwater Elevation Maps (2000), unconfined groundwater generally occurs at depths ranging from 50 to 70 feet below ground surface (bgs) and flows to the northeast. Groundwater quality in this unconfined zone has an EC of 1,000 to 3,000 umhos/cm and a TDS of 1,000 to 1,500 mg/L (Kern County Health Department, *Groundwater Pollutant Study*, 1980).

Groundwater maps developed by Kern County Water Agency show that the site lies within an area of shallow, perched groundwater. Depth to first-encountered groundwater within this perched zone ranges from 5 to 15 feet bgs. According to Kern County Water Agency, groundwater within this shallow zone is of poor quality with EC concentrations in the area ranging from 2,700 to 10,000 umhos/cm (samples collected in 2010 from several piezometers in the vicinity of the site).

Basin Plan, Beneficial Uses, and Regulatory Considerations

The Basin Plan identifies the greatest long-term water quality problem facing the entire Tulare Lake Basin is increasing salinity in groundwater, a process accelerated by man's activities and particularly affected by intensive irrigated agriculture. The Basin Plan recognizes that degradation is unavoidable until there is a long-term solution to the salt imbalance. Until then, the Basin Plan establishes several salt management requirements, including the following discharge limits:

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- a. The incremental increase in salts from use and treatment must be controlled to the extent possible. The maximum EC of the effluent discharged to land 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 boron content of 1.0 mg/L.

Narrative objectives (as opposed to specific numeric objectives) for groundwater in the Basin Plan are the most limiting for this discharge. The Basin Plan establishes narrative water quality objectives for groundwater for Chemical Constituents, Taste and Odors, and Toxicity. The Toxicity objective, in summary, 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. Quantifying a narrative water quality objective requires a site-specific evaluation of those constituents that have the potential to impact water quality and beneficial uses.

The Basin Plan Chemical Constituents water quality objective requires, at a minimum, waters designated as domestic or municipal supply to meet the MCLs specified in Title 22 of CCR. 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.

Antidegradation

Because naturally-occurring groundwater quality is poor and a high percentage of wastewater will be excellent quality condensate, the discharge is not expected to cause groundwater degradation. The Discharger intends to apply wastewater to about 2,200 acres of farmland, which minimizes organic, nutrient, and salt loading. Assuming the highest anticipated flow of 500,000 gallons per day will be applied to 120 acres (the land required to achieve a rest period of 3 weeks), the cycle average BOD loading to the Reuse Areas would be about 2 lbs/acre-day. Nitrogen loading rates are de minimus at less than 1 lb/acre-year. At a specific conductivity around 450 umhos/cm, the salinity of the discharge may be an order of magnitude less than the receiving water.

This Order will require the Discharger to monitor effluent quality and land application rates of waste constituents. Since the discharge is expected to be of better quality than underlying groundwater, the Order does not require groundwater monitoring. If sampling results indicate that the discharge poses a threat to water quality, the Executive Officer may require groundwater monitoring in the future.

This Order is consistent with the Antidegradation policy since: (a) the Dischargers have implemented BPTC to minimize degradation, (b) the limited degradation allowed by this Order will not unreasonably affect present and anticipated beneficial uses of groundwater, or result in water quality less than water quality objectives, and (c) the potential limited degradation is of maximum benefit to people of the State as the Plant is a source of employment in the region. In addition, the use of process wastewater for irrigation in place of groundwater will preserve a needed resource, which is of further benefit to people of the State.

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CEQA

Kern County did not perform an Initial Study pursuant to CEQA. The juice processing Plant will have potential to impact the environment as a result of the Central Valley Water Board discretionary action to adopt this Order. As such, the Central Valley Water Board is the lead agency for purposes of CEQA. A Mitigated Negative Declaration was circulated for this project by the California State Clearing House. The Central Valley Water Board adopted the final Mitigated Negative Declaration on DATE. This Order includes requirements to assure compliance with the Water Code and the Tulare Lake Basin Plan. This Order implements measures necessary to lessen or avoid significant adverse environmental impacts from the expansion project to less than significant levels.

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 exemptions found at Title 27, sections 20090(b) and 20090(h).

Proposed Order Terms and Conditions

Discharge Prohibitions, Specifications and Provisions

The proposed Order prohibits discharge to surface waters and drainage courses. The proposed Order limits monthly average flow to 38,500 gallons per day (gpd).

The proposed Order sets an EC limit such that the 12-month rolling average EC of the discharge shall not exceed the average EC of the source water plus 500 $\mu\text{mhos/cm}$. In addition, the proposed Order requires the Dischargers to prepare and implement a Salinity Control Plan to control the salinity of the discharge to the extent practicable.

The Order requires monitoring of the wastewater ponds to reduce the potential for nuisance conditions and organic overloading. The Order also requires a detailed accounting of wastewater application to the Reuse Areas. For each discrete area to which wastewater is applied, the Order requires calculated hydraulic loading rates, and loading rates of biochemical oxygen demand, nutrients, and salt.

The proposed Order would prescribe groundwater limitations that implement water quality objectives for groundwater from the Basin Plan. The limitations require that the discharge not cause or contribute to exceedances of these objectives or natural background water quality, whichever is greater. The proposed Order sets a groundwater limit for nitrate at the Primary MCL of 10 mg/L. The Order also includes narrative objectives from the Basin Plan for preservation of the AGR beneficial use of groundwater.

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. In recent years there has been increased emphasis on obtaining all necessary information, assuring the information is timely as well as representative and accurate, and thereby improving accountability of any discharger for meeting the conditions of discharge. Water Code section 13268 authorizes the assessment of administrative civil liability where appropriate. The proposed Order includes influent and effluent monitoring requirements. In addition, the proposed Order requires monitoring of the

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Reuse Areas and loading calculations for organics, nutrients, and salts. This monitoring is necessary to characterize the discharge, evaluate compliance with effluent limitations and discharge specifications prescribed in the Order.

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.