

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2016-XXXX

CEASE AND DESIST ORDER
FOR
MORNING STAR PACKING COMPANY, L.P.
AND FRED GOBEL
THE MORNING STAR TOMATO PACKING PLANT
COLUSA COUNTY

TO CEASE AND DESIST
FROM DISCHARGING CONTRARY TO REQUIREMENTS

The Regional Water Quality Control Board, Central Valley Region, (hereafter referred to as Central Valley Water Board or Board) finds that:

1. On 5 December 2013, the Central Valley Water Board adopted Waste Discharge Requirements (WDRs) Order R5-2013-0144 (the "2013 WDRs") for Morning Star Packing Company, L.P. and Fred Gobel (hereafter referred to jointly as "Discharger" or individually as "Morning Star" or "Gobel"). The WDRs prescribe requirements for the discharge of industrial wastewater to land, and replace the previous WDRs, Order 95-160.
2. Morning Star Packing Company, L.P. owns and operates a tomato processing facility (Facility). According to the 2013 WDRs, the Facility includes approximately 609 acres of associated land application areas (LAAs or cropland). An additional 95 acres of LAA (known as "Field MS1") is owned by Fred Gobel and leased to Morning Star Packing Company, L.P. Both Morning Star and Fred Gobel are responsible for compliance with the WDRs.
3. The Facility, which consists of a tomato processing facility and associated LAAs, is located south of the City of Williams, east of Interstate 5, in Colusa County (Sections 19, 20, 29 and 30, T15N, R2W, MDB&M).
4. According to the 2013 WDRs, the Facility operates only during the tomato harvest season, from about June to mid-October each year, making tomato paste and diced tomatoes. There are five wastewater streams: tomato waste generated in the flume system, water softener reject, condensate from the evaporation process, boiler blowdown, and plant cleaning water. The tomato waste enters the Settling Pond. The water softener reject, condensate, and boiler blowdown wastes are directed to the Cooling Pond. Wastewater generated from sanitation or cleaning activities flows directly to the cropland. The 2013 WDRs state that the volume of the Settling Pond is 5 acre-feet, the volume of the Cooling Pond is 210 acre-feet, and that wastewater is applied to 695 acres of cropland at agronomic rates.

PREVIOUS ENFORCEMENT

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9. On 27 January 2005, the Central Valley Water Board issued Cease and Desist Order (CDO) R5-2005-0003 to Morning Star Packing Company, L.P. and Fred Gobel. The CDO was issued for the following violations of WDRs 95-160:
 - a. Discharges of wastewater to surface water.
 - b. Failure to comply with the dissolved oxygen limit in the Settling Pond.
 - c. Evidence that the discharge had degraded the groundwater with calcium, chloride, nitrate, sulfate, and total dissolved solids.
 - d. Application of excessive levels of nitrogen and salts to the LAAs. Monitoring reports for the year 2004 reported that nitrogen loading rates ranged from 296 to 811 pounds per acre (lb/ac); however, few crops can consume more than 400 lb/ac of nitrogen per year. The total dissolved solids loading rates ranged from 5,600 to 14,800 lb/ac.
10. The Discharger submitted the reports required by the 2005 CDO and implemented facility and operational improvements. The CDO also established a loading rate for biochemical oxygen demand (BOD) of 100 pounds per acre per day or 300 pounds per acre per irrigation cycle. However, as discussed in the 2013 WDRs, compliance with the BOD and nitrogen loading rate limits has been inconsistent. The CDO was rescinded on 7 February 2014, after adoption of the 2013 WDRs.

VIOLATIONS OF THE 2013 WASTE DISCHARGE REQUIREMENTS

11. In August 2015, Board staff began receiving complaints of odors associated with Morning Star's operation. Staff inspected the facility on 20 August 2015, and subsequently issued a Notice of Violation (NOV) on 11 September 2015. The violations included: (a) expansion of the Cooling Pond from 60 acres to 100 acres, (b) removal of 90.5 acres of land application area, (c) discharge of organic matter (tomato juice) directly into the Cooling Pond (d) discharge of tomato solids into the ditches used to convey wastewater to the cropland, (e) off-site odors, (f) dissolved oxygen violations, and (g) pH violations. These violations, as well as others discovered during a review of monitoring reports, are discussed below. The NOV required a response, which Morning Star submitted on 1 October 2015. The response was inadequate to ensure that Morning Star would return to compliance with the 2013 WDRs in a timely manner and therefore this Cease and Desist Order has been prepared.

The following violations of the 2013 WDRs are discussed below:

- Unpermitted expansion of the Cooling Pond and removal of the land application area
- Unauthorized discharge of organic waste to the Cooling Pond
- Odor violations
- Dissolved oxygen violations
- Unpermitted expansion of the Settling Pond
- Effluent and mass loading limit violations
- Groundwater pollution
- Solid waste management violations

- pH effluent limit violations
- Stormwater violations

Unpermitted Expansion of the Cooling Pond and Removal of Land Application Area (Cropland)

12. Discharge Prohibition A.3 of the WDRs states: *“Discharge of waste at a location or in a manner different from that described in the Findings is prohibited.”*
13. Discharge Specification D.3 of the WDRs states that *“Wastewater treatment, storage, and disposal shall not cause pollution or nuisance as defined by Water Code section 13050.”*
14. Standard Provision A.4 of the 2013 WDRs states: *“Before making a material change in the character, location, or volume of discharge, the discharger shall file a new Report of Waste Discharge with the Regional Board.”*
15. The WDRs state that the Cooling Pond is 210 acre-feet in volume and 60 acres in size¹. The Cooling Pond is not lined and the base of the pond is approximately 1.7 to 3.2 feet above groundwater². The Cooling Pond receives water softener reject, condensate from the evaporation process, and boiler blowdown. Water softener reject and boiler blowdown are high strength wastes; Finding 18 of the 2013 WDRs shows that the electrical conductivity of the water softener reject ranges from 850 to 8,600 mg/L. Finding 17 of the WDRs states that the boiler blowdown has an average electrical conductivity of 1,200 to 1,400 umhos/cm. It is appropriate for the Board to regulate the waste entering the Cooling Pond because it has the potential to impact groundwater and surface waters.
16. According to the Facility Site Plan (Attachment B of the 2013 WDRs), the Cooling Pond is directly north of the plant and south of Fields MS20 and MS21, and shows that the pond is 60 acres in size. The 2013 WDRs state that wastewater is applied to 695 acres of cropland³.
17. The Anti-degradation Analysis discussion in the WDRs is based on the 60 acre Cooling Pond and application of wastewater to the entire 695 acres. The analysis identifies five specific constituents of concern that have the potential to degrade groundwater quality: total dissolved solids (TDS), chloride, nitrate, iron, and manganese. With respect to manganese, excessive BOD loading rates can deplete oxygen resulting in anoxic conditions that can solubilize naturally occurring metals in soil, like manganese. BOD

¹ Finding 12 and Attachment B

² Calculated using toe-of-berm elevation data provided in the engineering drawings included as Attachment A to the 1 October 2015 NOV response, and groundwater elevation data provided in Morning Star's First Quarter 2015 Groundwater Monitoring Report. The data includes: (a) a toe-of-berm elevation of 87.87 feet from a location along the southeastern portion of the pond near monitoring well MW 3, (b) a toe-of-berm elevation of 86.44 feet from a location along the northwest corner of the pond near MW 5, and (c), groundwater elevations of 86.22 feet for MW 3 and 83.27 feet for MW 5.

³ Findings 19, 28, and 60; Information Sheet

overloading to the cropland has caused reducing conditions that favor dissolution of manganese from native soil. The analysis attributes these conditions to extended periods of soil saturation with high BOD wastewater which has caused and/or contributed manganese concerns in groundwater. Additionally, with respect to nitrates, the historic over-application of wastewater to the cropland has resulted in uneven nutrient loading with some fields receiving more nitrogen than is reasonably expected to be consumed by the crop.

18. During the 20 August 2015 inspection, Board staff observed that the Cooling Pond had been expanded and that LAAs MS20A, MS20B, and MS21, a total of 90.5 acres, had been removed because of the Cooling Pond expansion. The Morning Star representative verbally indicated that the pond had been expanded from 60 acres to approximately 100 acres⁴. The increased size of the Cooling Pond allows for (a) increased production, (b) increased discharge of wastewater to this pond, and (c) the potential to further impact groundwater beyond what was discussed in the Anti-degradation Analysis. The potential groundwater impacts are two-fold: there is an increase in the volume of wastewater which can percolate directly into the groundwater from the Cooling Pond and there is a decrease in cropland on which to spread the waste at agronomic rates.
19. The Discharger did not submit a Report of Waste Discharge or provide any notice to the Water Board prior to expanding the Cooling Pond and removing 90.5 acres of LAA cropland. Based on information provided by Morning Star in response to the Notice of Violation, the Cooling Pond expansion appears to have been completed in the spring of 2015.
20. The expansion of the Cooling Pond is a violation of Prohibition A.3, Discharge Specification D.3, and Standard Provision A.4 of the 2013 WDRs.
21. The Discharger includes a facility map as Attachment D in its monthly monitoring reports. A review of the reports submitted for April through September 2015 finds that for the months of April, May, and June, the map shows the Cooling Pond and fields as described in the WDRs. However, beginning with the July 2015 report, the map shows the expanded Cooling Pond and the removal of fields MS20A, MS20B, and MS21.
22. The 2015 monthly monitoring reports also show that the Discharger did not apply wastewater to the Gobel property⁵, the 95 acre field known as MS-1. Morning Star did not submit a Report of Waste Discharge or otherwise notify Board staff that it planned to modify the acreage to which it is applying wastewater. According to Morning Star's NOV response, for the 2015 tomato processing season, wastewater was only applied to 485 acres of cropland. Applying wastewater to 485 acres rather than the entire 695 acres is a violation of Prohibition A.3 and Standard Provision A.4 of the 2013 WDRs.

⁴ The new size of 100 acres was verbally confirmed during a meeting with Morning Star on 2 November 2015.

⁵ Wastewater was not applied to the Gobel property in 2014 or in 2015. During a 2 November 2015 meeting, staff was told that the reason this field was not used was that Morning Star could not obtain a lease for it.

23. Morning Star's NOV response also states that the average effluent BOD concentration increased from 600 mg/L in 2014 to approximately 1,769 mg/L in 2015. This resulted in a "net increase of BOD produced by the facility which was applied on a smaller LAA (600 acres to 485 acres)." Application of wastewater with increased BOD concentrations threatens to cause a condition of pollution in groundwater as BOD can trigger anoxic conditions that solubilize metals like iron and manganese in soil. The application of wastewater to only 485 acres of cropland is a violation of Discharge Specification D.3, Standard Provision A.4, and as discussed below, a violation of Effluent Limits C.1 and C.2 of the 2013 WDRs.
24. The 11 September 2015 Notice of Violation required that Morning Star, among other items, provide a plan for how it would replace the 90.5 acres of cropland that had become part of the expanded Cooling Pond. Morning Star's 1 October 2015 response states that "the facility does not plan on replacing the fields replaced by the cooling pond at the current time. The existing flows can be applied to the 485 acres currently being utilized at agronomic rates." However, Morning Star has not submitted a Report of Waste Discharge to request that its WDRs be revised to allow the same volume of wastewater to be applied to 31% less land than is currently described in the WDRs. The Board's Anti-degradation Analysis, a necessary component of permitting a discharge of waste, is based on the use of 695 acres of cropland.
25. This Order requires that Morning Star comply with WDRs Order R5-2013-0144 by restoring the Cooling Pond to 60 acres and restoring the 90.5 acres of land application areas MS20A, MS20B, and MS21, as authorized in the WDRs. This restoration must be completed prior to the 2016 tomato processing season. In addition, this Order requires that the Discharger apply wastewater to the entire 695 acres envisioned in the WDRs, including the Gobel property.

Unauthorized Discharge of Organic Waste to the Cooling Pond

26. Discharge Prohibition A.3 of the WDRs states: "*Discharge of waste at a location or in a manner different from that described in the Findings is prohibited.*"
27. Discharge Specification D.3 of the WDRs states "*Wastewater treatment, storage, and disposal shall not cause pollution or nuisance as defined by Water Code section 13050.*"
28. Discharge Specification D.1 of the WDRs states "*No waste constituent shall be release or discharged, in a concentration or in a mass that causes violation of the Groundwater Limitations of this Order.*"
29. Standard Provision A.4 of the 2013 WDRs states: "*Before making a material change in the character, location, or volume of discharge, the discharger shall file a new Report of Waste Discharge with the Regional Board.*"
30. Finding 12 of the WDRs states that "The Cooling Pond receives water softener reject, condensate from the evaporation process, and boiler blowdown." According to the WDRs, the Cooling Pond does *not* receive any wastewater containing organic matter. This is reflected in the fact that the only monitoring required for the Cooling Pond is

flow, dissolved oxygen, pH, freeboard, and odors. In contrast, wastewater containing organic matter from tomato by-products is directed to the Settling Pond, and this pond must also be monitored for BOD, fixed dissolved solids, and total nitrogen.

31. When questioned about the August 2015 odor complaints, the Discharger stated that water containing organic matter (tomato juice) had been pumped directly into the Cooling Pond. Prior to the 2015 tomato processing season, new evaporators were installed, which “discharged a condensate that had a higher than normal concentration of tomato material”⁶ which entered the Cooling Pond. Morning Star states that it has now re-routed the condensate from that particular evaporator to enter the Settling Pond instead of the Cooling Pond.
32. During a meeting with Morning Star on 2 November 2015, staff learned that organic matter is routinely discharged to the Cooling Pond through the steam that is pulled off of the evaporators⁷. The system has been designed so that there’s not a “significant amount” of organic matter discharged. The purpose of the Cooling Pond is to both cool water and to provide enough surface area to add enough oxygen to mitigate the BOD which enters it. However, the WDRs do not envision or allow any organic matter to enter the Cooling Pond.
33. It appears that a significant volume of tomato waste entered the Cooling Pond. The expanded Cooling Pond is 100 acres in size and ranges in depth from 3-4 feet at the southern end to 6-8 feet at the northern end⁸. The Discharger has not provided the maximum capacity of the pond, but it is estimated to be 550 acre-feet (as compared to the maximum capacity of 210 acre-feet described in the WDRs). If there were no organic matter in the Cooling Pond, then it would be expected that the dissolved oxygen concentration would be significantly greater than the WDR limit of 1.0 mg/L⁹. However, between 6 August 2015 and 14 October 2015¹⁰, there was less than 1.0 mg/L of dissolved oxygen 59% of the time, and Morning Star representatives noticed that the pond had a pink color in early August. Because there is such a large volume of water in the expanded Cooling Pond and because the dissolved oxygen was significantly depressed for so long, Board staff concludes that Morning Star discharged a large volume of organic material into the pond, in violation of Prohibition A.3, Discharge Specification D.3, and Standard Provision A.4 of the WDRs¹¹. As discussed in Findings 17, 18, and 23, the Prosecution Team contends that this unpermitted discharge of tomato waste likely impacted groundwater, which is a violation of

⁶ Response to The Morning Star Packing Company, LP NOV dated September 11, 2015. Document dated 1 October 2015.

⁷ “Summary of Meeting” memo from Wendy Wyels to Morning Star case file dated 3 November 2015

⁸ *ibid*

⁹ United States Geological Survey Water Supply Paper 2254, Study and Interpretation of the Chemical Characteristics of Natural Water, third edition, (page 155, Oxygen) “At 5°C in freshwater the equilibrium DO value is 12.75 mg/L. At 30°C the concentration is 7.54 mg/L.” See: <http://pubs.usgs.gov/wsp/wsp2254/pdf/wsp2254a.pdf>

¹⁰ The date of the last Daily Update Assessment Report

¹¹ See also Morning Star’s 24 August 2015 response to Board staff’s phone call regarding the odor complaints. The letter states that “we were discharging too much tomato organics into the cooling pond” as a result of a process change, and in addition “a major upset...necessitated a fast shutdown and the operating folks spilt a large tank into the cooling pond.”

Discharge Specification D.1.

34. Because the Monitoring and Reporting Program does not require constituent monitoring of the Cooling Pond, it is not possible to determine the concentration of the organic material has been discharged into it.
35. This Order requires the Discharger to comply with its WDRs and therefore prohibits the discharge of organic matter (tomato waste) into the Cooling Pond. To verify that no tomato waste enters the Cooling Pond, this Order requires the Discharger to collect weekly wastewater samples from the influent into the Cooling Pond, and analyze the samples for BOD, FDS, and total nitrogen. The monitoring results are to be submitted with the monthly monitoring reports that are required by the MRP.

Odor Violations

36. Discharge Specification D.7 of the WDRs states: *“Objectionable odors 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.”*
37. Between 6 August and 14 August 2015, the Colusa County Environmental Health Department received five odor complaints from residents of the City of Williams. According to the complainants, the odors were the result of tomato processing operations and discharges occurring at the Morning Star Packing Plant. These complaints were forwarded to Board staff on 7 August 2015 and 14 August 2015.
38. On 14 August 2015, in response to the complaints, Board staff contacted Morning Star via telephone to ask about the dissolved oxygen content in the Cooling Pond and Settling Pond and if anything unusual had occurred during the previous week. Morning Star stated in a follow-up phone conversation that the odors were from two sources: (a) water containing organic matter that was pumped into the Cooling Pond, and (b) a reduction in clean water used in the facility which resulted in higher strength wastewater in the Settling Pond. Staff informed Morning Star via telephone and e-mail that it must follow its permit requirements and submit a written report by 26 August 2015 describing in detail how the odor violations occurred, the steps to be taken to prevent odors in the future, and all analytical data (i.e. dissolved oxygen) collected during the odor events. In addition, Board staff requested that Morning Star submit *Daily Update Assessment Reports* describing odor conditions and the results of daily dissolved oxygen readings for the ponds.
39. Morning Star submitted *Daily Update Assessment Reports* between 18 August 2015 and 14 October 2015¹². The reports contain the results of daily odor observations at four on-site locations¹³ and seven off-site locations, as well as daily dissolved oxygen, pH, and

¹² As allowed by Board staff, the reporting ended because Morning Star had achieved seven consecutive days of dissolved oxygen readings above 1 mg/L in the Cooling Pond and the Settling Pond had been drained.

¹³ Morning Star considered the “Abel/Husted” location to be on-site. The point is at the northwest corner of the Gobel field. However, because wastewater was not applied to the Gobel field in 2014 or 2015, “Abel/Husted” is not an on-site location and is instead an off-site location.

EC results for the Settling and Cooling Ponds. The reports show that odors were consistently reported at the following offsite locations: Abel and Husted Roads to the northwest of the facility, Husted and the Interstate 5 overpass to the southwest, and to the west along old Highway 99.

40. On the morning of the 20 August 2015 site inspection, Board staff noted slight odors at the corner of Husted and Abel roads, located northwest of the facility.
41. On 22 September 2015, Board staff was informed by the City of Williams of an odor complaint that was reported on 10 September 2015. The City indicated that *"...on 10 September 2015 late afternoon, I had people come into my office complaining heavily about the odor coming from Morning Star. Their main complaint was with this year's ponds and asked [sic] if they were putting anything in the new ponds to neutralize the odors. The smell occurs mid-afternoon and carries into the evening when everyone would like to enjoy outdoor activities but not now due to the smells. [sic] Said it will stop for a few days but would return again and the winds make smells worse. These complaints were from families living on Crawford Road¹⁴. They understood there will be odors due to the nature of the plant and had high regards for Morning Star but this year seemed excessive."*
42. On 22 September 2015, Colusa County Environmental Health Department reported two additional odor complaints that were received on 21 and 22 September 2015. The 21 September 2015 complaint was from the Valley Ranch area, and the 22 September 2015 complaint was from the Husted Road area. Both locations are northwest of the facility. The complainant from Husted Road indicated that there were a large number of flies in the area which did not allow the complainant to go outside. Each of the complaints indicated that the odors occurred during the evening hours.
43. On 28 September 2015, Board staff was informed by Colusa County Environmental Health of three separate odor complaints that occurred on 21, 25 and 27 September 2015. The odors were reported from a resident living on Butte View Drive, just northwest of the Morning Star Plant. The odors occurred from mid to late afternoon through the evening hours, up to approximately 10:00 pm.
44. Attachment A to this Cease and Desist Order summarizes the odor complaints received during Morning Star's 2015 tomato packing season, as well as the off-site odors reported by Morning Star. As shown in the Attachment A, for the period of 6 August 2015 to 12 October 2015, odors were reported for 47 days of the 67 days (70% of the time).
45. Morning Star's 1 October 2015 response to the NOV states that the odors resulted from (a) an increase in BOD concentrations because less water was used at the facility than in previous years, (b) the higher-strength wastewater was applied to less cropland (485 acres as compared to the 695 acres described in the WDRs), and (c) a "difficult start-up of the facility". Morning Star states that it has planned improvements during the off season to capture more of the tomato product, install additional sprinkler irrigation, and install additional solids screening, and that these actions should reduce odors.

¹⁴ Crawford Road is northwest of the Morning Star facility.

46. This Order requires Morning Star to address the odor issues by completing a comprehensive review of the five waste streams, as well as the Settling Pond, Cooling Pond, irrigation ditches, and irrigation methods and propose specific improvements to prevent odor generation at each location. In particular, the review shall consider the need for additional aerators, dissolved aeration flotation (DAF) units, and screening at the Settling Pond, and at the Cooling Pond, aerators, screening, and a cooling tower, as well as methods to ensure that no organic waste enters the Cooling Pond. This Order also requires Morning Star to conduct real time odor monitoring during the 2016 processing season, and to take immediate actions if there are any off-site odors.

Dissolved Oxygen Violations

47. As stated in the Odor Violations section above, Discharge Specification D.7 states *“Objectionable odors 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.”*
48. Discharge Specification D.8 of the WDRs states: *“As a means of discerning compliance with Discharge Specification D.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 weekly 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.”*
49. A review of Morning Star’s 2014 monthly monitoring reports show that Morning Star consistently reported the DO concentration above the 1.0 mg/L limit for both ponds. The same was true for the beginning of the 2015 processing season. However, during the 20 August 2015 inspection, staff observed the Morning Star technician’s process for measuring DO, and determined that Morning Star had been collecting DO samples in a manner that allowed extra oxygen to enter the waste prior to the measurement¹⁵. This inappropriate sampling method¹⁶ calls into question the DO results that have previously been reported by Morning Star.
50. In response to Board staff’s request, Morning Star began collecting daily DO readings in the Settling Pond and Cooling Pond on 6 August 2015. These *Daily Assessment Reports* contain DO results for samples collected by three different methods: “direct

¹⁵ As described in staff’s 11 September 2015 inspection report, “Grab samples were collected using a glass bottle attached to a pole which was submerged one foot below the surface. The sample was then poured into a plastic bottle and the DO measurement was taken.” The act of pouring the sample into a bottle introduces oxygen and provides an erroneous (too high) result. This is validated in staff’s inspection report which states that the DO measurements taken from the bottle sample ranged from 1.12 to 3.38 mg/L, awhile the DO measurements taken by dropping the probe directly into the pond water were all less than 1.0 mg/L .

¹⁶ See for example, the US EPA discussion on how to sample dissolved oxygen at: <http://water.epa.gov/type/rsl/monitoring/vms52.cfm>. See also US EPA’s standard operating procedures in the document titled “Field Measurement of Dissolved Oxygen”, available at: <http://www2.epa.gov/sites/production/files/2015-06/documents/Field-DO-Measurement.pdf>.

DO”, “grab DO”, and “lab grab DO”. The “grab DO” method uses the inappropriate collection method described in the above Finding and therefore these values cannot be used for compliance determination. The “lab grab DO” results are samples which were collected by analytical laboratory staff with the grab method and then analyzed onsite with the laboratory’s equipment. These values cannot be used to determine compliance because the collection method was inappropriate. The only samples which Board staff are fairly confident were collected and analyzed correctly are the “direct DO” samples, in which the DO probe was lowered into the pond and the concentration was determined while the probe was in the pond.

51. A review of the “direct DO” results reported in the *Daily Assessment Reports* for the period of 6 August 2015 through 29 September 2015¹⁷ shows that the DO in the Settling Pond exceeded 1.0 mg/L for 42 of 54 days, or 78% of the time. A review of the same reports for the period of 6 August 2015 through 12 October 2015¹⁸ shows that the DO in the Cooling Pond exceeded 1.0 mg/L for 41 of 69 days, or 59% of the time. Coupled with the odor complaints and off-site odor monitoring, this data shows that Morning Star violated Discharge Specification D.8 of the WDRs.
52. Morning Star’s 1 October 2015 response to the NOV states “a DO study will be performed to determine if additional aeration is required to keep the DO levels above 1.0 mg/L.” The response also states that the Discharger is investigating which brand of aerator has the most efficient method of oxygen transfer. During the 20 August 2015 inspection, Board staff observed one aerator in the Settling Pond and no aerators in the Cooling Pond. It is noted that installation of the single aerator in the Settling Pond was the Discharger’s method to address the DO violations described in the 2005 CDO.
53. During the 20 August 2015 inspection, Board staff observed that Morning Star’s technician collected a DO sample from the Settling Pond in a location different than that required by the Monitoring and Reporting Program, i.e., “opposite the inlet”. The sample was collected in a location that would have the most aerated water, and was not representative of the wastewater in the entire pond. In response to the 11 September 2015 Notice of Violation, Morning Star submitted Standard Operating Procedures for collecting and measuring dissolved oxygen. However, this document needs to be updated to reflect sampling locations and proper sample collection. This Order requires the submittal of *Sampling and Analysis Plan* for sample collection and measurement of dissolved oxygen¹⁹, as well as other constituents which are measured with hand-held meters.
54. This Order requires the Discharger to submit a *Dissolved Oxygen Compliance Feasibility Study* evaluating and describing the improvements that are needed to meet the DO requirements described in Discharge Specification D.8 of the WDRs.

Unpermitted Expansion of Settling Pond

¹⁷ The date that the Settling Pond was drained.

¹⁸ The date that Board staff agreed that daily monitoring could be discontinued.

¹⁹ Standard operating procedures prepared by the U.S. Environmental Protection Agency, titled “Field Measurement of Dissolved Oxygen” are available at: <http://www2.epa.gov/sites/production/files/2015-06/documents/Field-DO-Measurement.pdf>.

55. According to Morning Star's 12 January 1995 letter submitted with its Report of Waste Discharge²⁰, the Settling Pond was 40,000 square feet (0.92 acres in size), with a depth of 5 feet. The volume was therefore 4.6 acre-feet. However, Findings 12-13 of the 2013 WDRs states that the Settling Pond has a capacity of 5 acre-feet (i.e., 1 acre in size by 5 feet deep). The Findings also state that the pond and was constructed with clay soils compacted in lifts.
56. Based on observations during the 2 November 2015 inspection, staff suspected that the Discharger increased the size of the Settling Pond beyond the 5 acre-foot volume. Subsequent to this inspection, Board staff confirmed the probable size increase by reviewing photos taken during previous inspections and a Google Earth aerial image dated 10 July 2013.²¹ On 3 November 2015, Morning Star was issued a California Water Code Section 13267 Order to provide the current capacity of the Settling Pond.
57. On 13 November 2015, Morning Star responded to the 13267 Order. A registered engineer determined that the top of the Settling Pond is now 440 feet by 196 feet (1.98 acres) by 7.65 feet deep (allowing for two feet of freeboard). The current volume of the Settling Pond is 10.16 acre feet²². The document also references "the 2011 staking plans for the pond expansion." Apparently, the pond was expanded in 2011, yet Morning Star did not communicate this to the Board's Permitting staff when the updated WDRs were being prepared in 2013. The Anti-degradation Analysis of the 2013 WDRs is based on a 5 acre-foot Settling Pond, not a 10.16 acre-foot Settling Pond.
58. This Order requires that, prior to the 2016 processing season, Morning Star restore the Settling Pond to the volume allowed by the 2013 WDRs.

Effluent and Mass Loading Limitation Violations

59. Effluent and Mass Loading Limitations C.2 of the WDRs states: "Wastewater applied to each LAA field shall not exceed the following mass loading limits:

Constituent	Units	Maximum	Annual Maximum
<i>Total Nitrogen Mass Loading¹</i>	<i>lb/ac/year</i>	<i>--</i>	<i>Crop Demand</i>
<i>BOD Mass Loading¹</i>	<i>lb/ac/day</i>	<i>100²</i>	<i>--</i>

¹ *Based on all sources, including residual solids, commercial fertilizers and cattle manure, as well as water from the Settling Pond and plant sanitation and cleaning activities.*

²⁰ 12 January 1995 letter *Description of Liquid Waste Discharge to Land by The Morning Star Packing Company Tomato Processing Facility in Williams, California*

²¹ See a 4 November 2015 memo from Howard Hold to Morning Star case file titled "Settling Pond Expansion"

²² See the 16 November 2015 memo from Howard Hold and Mike Fischer to Wendy Wyels titled "*Settling Pond Seepage Increase Estimate, Morning Star Packing Company, Williams Facility, Colusa County*"

² *This limit applies as an irrigation cycle average. For the purpose of this Order, "irrigation cycle" is defined as the time period between the start of an irrigation event for a single field and the start of the next irrigation event for the same field.*

60. The July through September 2015 monthly monitoring reports report that the BOD mass loading concentrations exceeded 100 lb/ac/day irrigation cycle average numerous times, as shown in the table below:

Field	Dates On Which Application Exceeded the Effluent Limit of 100 lb/ac/day	BOD Loading Rate (lb/acre/day)
MS2	28 to 29 August	109
MS3	29 to 30 August	153
MS6	8 to 14 August	134
MS6	23 to 26 August	195
MS11	8 August to 9 August	199
MS11	14 August to 17 August	146
MS15	17 August to 19 August	108
MS16	11 August to 13 August	134
MS16	13 August to 15 August	104
MS18a	14 August to 16 August	122
MS18a	17 August to 19 August	147
MS24	15 August to 18 August	118
MS24	21 August	118
MS2	16 to 17 September	127
MS5	8 to 9 September	155
MS14	8 to 10 September	216
MS14	12 to 18 September	198
MS14	18 to 20 September	113
MS14	23 to 25 September	118
MS14	27 to 30 September	103
MS15	15 to 16 September	192
MS15	23 to 25 September	150
MS16	13 to 15 September	131
MS16	15 to 16 September	151
MS16	24 to 26 September	138
MS18a	2 to 3 September	113
MS18b	25 to 26 September	154

61. A review of the January through September 2015 monthly monitoring reports shows that Morning Star has violated the nitrogen loading limit for field MS6. The field was double cropped with oats and rice, and Morning Star states that the crop demand is 225 lbs nitrogen/acre/year. However, through September 2015, Morning Star has applied 319 lbs/nitrogen/acre to this field, in violation of Effluent and Mass Loading Limitations C.2 of the WDRs.

62. This Order requires Morning Star to submit a technical report describing the improvements and operational changes that will be made prior to the 2016 processing season to reduce the BOD and nitrogen loading rates to meet the Effluent and Mass Loading Limitations C.2 of the WDRs.

Groundwater Pollution

Groundwater Limitation Violation for Manganese

63. Groundwater Limitations section E.1 of the 2013 WDRs states, in part, that “*The release of waste constituents from any portion of the Facility shall not cause the groundwater to: 1. Contain any of the specified constituents in a concentration statistically greater than the maximum allowable concentration tabulated below. The wells to which these requirements apply are specified in the Monitoring and Reporting Program.*”
64. The Applicability of Groundwater Limitations section of the Monitoring and Reporting Program contains, in part, the following:

Constituent	Groundwater Limitation	Compliance Wells to which Limitation Applies
Manganese	0.05 mg/L ¹	MW2, MW3, MW6, MW9
Manganese	Current Groundwater Quality ^{1,2}	MW7, MW8

¹ Compliance with this requirement shall be determined on an intrawell basis for each of the specified wells using approved statistical methods.

² “Current groundwater quality” means the quality of groundwater in the well as evidence by monitoring completed as of the date of the WDRs.

65. The *Second Half Semi Annual 2015 Groundwater Monitoring Report* contains historical tabulated monitoring well data. Manganese data for selected compliance wells are tabulated below. Note that only results from samples collected after issuance of the 2013 WDRs (5 December 2013) are provided.

Well	Date	Manganese Concentration, mg/L	Groundwater Limit, mg/L ²³	Was Limit Exceeded?
MW-7	Dec-13	0.19	About 0.175	Yes
	Feb-14	0.27	About 0.175	Yes
	May-14	0.24	About 0.175	Yes
	Aug-14	0.26	About 0.175	Yes

²³ Limits for MW-7 and MW-8 calculated per Morning Star's 1 July 2014 *Groundwater Limitations Compliance Assessment Plan* which states that the “current groundwater quality” (i.e., concentrations at the time the 2013 WDRs were adopted) is to be determined using the mean concentration with a confidence interval of the historical data. However, Morning Star did not propose a groundwater limit for wells MW-7 or MW-8. Therefore, staff used the Sanitas groundwater program to calculate the mean of the historical data but did not include a confidence interval. The “groundwater limit” for MW-7 and MW-8 is an approximation.

	Nov-14	0.31	About 0.175	Yes
	Feb-15	0.31	About 0.175	Yes
	May-15	0.33	About 0.175	Yes
	Aug-15	0.69	About 0.175	Yes
MW-8	Dec-13	0.96	About 0.65	Yes
	Feb-14	1.18	About 0.65	Yes
	May-14	1.15	About 0.65	Yes
	Aug-14	1.33	About 0.65	Yes
	Nov-14	1.64	About 0.65	Yes
	Feb-15	1.73	About 0.65	Yes
	May-15	1.44	About 0.65	Yes
	Aug-15	1.34	About 0.65	Yes
MW-9	Dec-13	0.14	0.05	Yes
	Feb-14	0.10	0.05	Yes
	May-14	0.10	0.05	Yes
	Aug-14	0.19	0.05	Yes
	Nov-14	0.32	0.05	Yes
	Feb-15	0.23	0.05	Yes
	May-15	0.34	0.05	Yes
	Aug-15	0.37	0.05	Yes

66. The data in the above table shows that Morning Star has violated the manganese groundwater limitation in three monitoring wells. In addition, Morning Star's *2014 Annual Report* states that the manganese concentrations in well MW-7 and MW-8 were not in compliance with the groundwater limitation (although Morning Star did not specify the limitation that they used to make this determination, and did not recognize that MW-9 also exceeded the specified limit). The 2015 groundwater data shows that there continues to be manganese pollution in all three wells.
67. As described in Finding 58.d of the WDRs, the wastewater is not expected to contain manganese. However, excessive loading of BOD onto the cropland can deplete oxygen in the soil resulting in anoxic conditions that can solubilize naturally occurring metals in the soil. At the time the WDRs were adopted, overloading of BOD on cropland had already caused pollution in monitoring wells MW-7 and MW-8. The WDRs set a groundwater limit to prohibit any increase in pollution and set a protective BOD loading limit for the cropland. However, as discussed above, Morning Star has exceeded its BOD loading limit numerous times during the 2015 season, and the extent of manganese pollution in the groundwater has increased.
68. This Order requires that Morning Star take immediate steps to reduce the manganese in the groundwater, including reducing the BOD loading to its fields.

Groundwater Trigger Violation for Total Dissolved Solids

69. The Groundwater Monitoring Section of Monitoring and Reporting Program (MRP) R5-2013-0144 includes groundwater trigger concentrations to be used in assessing whether the discharge has the potential to cause a violation of the Groundwater Limitations of the WDR. This section states that if the annual average of one or more trigger concentrations are exceeded in any compliance well during a calendar year, then by 1 May of the following year, the Discharger shall submit a technical report describing the reasons for the increase and either (a) a demonstration that continuing the discharge with no change will not result in an exceedance of the groundwater limitation or (b) a plan to evaluate facility changes to prevent an exceedance of the groundwater limitation.
70. The 2014 Annual Monitoring Report states that no groundwater trigger concentrations were exceeded during 2014. However, Board staff's calculation of the 2014 annual average TDS concentration for Monitoring Well MW-9, using quarterly groundwater data collected for the months of February, May, August, and November 2014, shows that in 2014 the annual average TDS concentration was 1,296 mg/L, which exceeds the trigger concentration limit of 1,200 mg/L for well MW-9²⁴. Morning Star should have submitted the reports described in the above Finding, but did not.
71. The *Second Half Semi Annual 2015 Groundwater Monitoring Report* shows that well MW-9 is on track to again exceed the TDS trigger concentration. The average TDS concentration for the first three quarters of 2015 in well MW9 is 1,307 mg/L, which exceeds the trigger concentration of 1,200 mg/L.
72. Morning Star has violated the MRP by not submitting the technical report(s) required when the 2014 groundwater trigger was exceeded. The report for the 2015 trigger exceedance is not required until 1 May 2016. This Order requires that both reports be submitted.

Solid Waste Management Violations

73. Discharge Specification D.5 of the WDRs states: *"The Discharger shall operate all systems and equipment to optimize the quality of the discharge."*
74. Finding 60 of the WDRs states: *"The Discharger currently provides treatment and control of the discharge that incorporates the following...b. Wastewater screening to reduce BOD."*
75. Residual Solids Disposal Specification G.2 of the WDRs states, in part: *"[s]ludge, solid waste, or residual solids shall be removed from screens, sumps, and ponds as needed to ensure optimal operation and adequate storage capacity."*
76. Residual Solids Disposal Specification G.5 of the WDRs states in part: *"Prior to the use of residual solids as a soil amendment on the LAAs... the Discharger shall obtain the*

²⁴ Morning Star made this determination based on the average concentration of two semi-annual data points. However, Morning Star collected quarterly samples, and therefore all four values must be used for the calculation.

Executive Officer's written approval of the Residual Solids Management Plan Provision H.3 ..."

Tomato Solids in Ditches

77. During the 20 August 2015 inspection, Board staff observed tomato solids in the ditches used to transport the wastewater from the facility to the cropland. The tomato solids are a source of excessive BOD and odors, and should not be present in the irrigation ditches. The presence of the tomato solids is a violation of Discharge Specification D.5 and Finding 60 of the WDRs.
78. Morning Star states in its 1 October 2015 response to the NOV that "an investigation into the discharge of tomatoes to the ditches and settling pond determined that the removal of rock trap screens from the stream of water flowing to the rotary screens caused a large number of tomatoes to be discharged to the Settling Pond when the rock dump valves opened." In addition to removing the rock trap screen, there was also a timing issue with tomatoes being released from the streams to the conveyor belt. Morning Star states that it has replaced the screen and fixed the timing issue
79. The presence of tomato solids in the ditches is a violation of Discharge Specifications D.5 and G.2 of the 2013 WDRs. This Order requires that Morning Star take measures to prevent this discharge, conduct daily monitoring, and on a daily basis, remove and appropriately dispose of any tomatoes in the irrigation ditches.

Application of Residual Solids to Land

80. Morning Star has not submitted the *Residual Solids Management Plan* referenced in Provision H.3 of the WDRs. Therefore, Morning Star is not permitted to apply residual solids (including cull tomatoes, vines, and tomato pomace) to the LAAs. However, a review of the August 2015 and corrected September 2015 monthly monitoring reports show that Morning Star disposed of 1,215 tons of pomace and 1,215 tons of wet waste to field MS24. This disposal is in violation of Discharge Specification G.5.
81. During the 2 November 2015 meeting, staff learned that Morning Star's previous practice was to have its residual solids hauled off-site by a contractor. However, for 2015, the hauler raised its price and Morning Star decided instead of hauling the residual solids off-site, that it would mix it with other materials and make silage. Staff observed multiple large silage tubes on the south and east side of the property.
82. A review of the July through September 2015 monthly reports shows that 57,358,980 tons of pomace and 52,839,832 tons of wet waste were generated during this three month period. Of that, 1,200 tons were applied to a field and the remaining 110 million tons were made into silage. The WDRs do not discuss silage operations or provide any specification or monitoring to ensure that water quality is protected while conducting this type of operation. The Discharger violated Discharge Prohibition A.3 and Standard Provision A.4 of the 2013 WDRs.
83. This Order requires that the Discharger comply with its 2013 WDRs and therefore remove all silage from the property, not generate any more silage, and submit the

Residual Solids Management Plan so that residual solids may be applied to the fields in a manner that complies with the WDRs.

pH Violations

84. Discharge Specification D.15 of the WDRs states: "*Wastewater contained in the Cooling Pond shall not have a pH less than 6.0 or greater than 9.0. Wastewater contained in the Settling Pond shall not have a pH less than 4.0 or greater than 9.0.*"
85. Board staff's review of *Daily Assessment Reports* show that pH concentrations in the Settling Pond were reported at 3.9 pH units in samples collected on 5-7 September 2015.
86. Morning Star's 1 October 2015 response to the NOV states that the pH readings reported during this period were not accurate because the weekly calibration of the pH probe was found to be low by 0.13 pH units. The Discharger indicates that they have prepared a Standard Operating Procedure that requires recalibration of the pH meter when the reading is out of the specified range. This document has not been submitted to Board staff.
87. This Order requires the Discharger to submit *Sampling and Analysis Plan* that includes specific calibration and sampling procedures for all hand-held meters, including the pH meter.

Storm Water Violations

88. Morning Star should have applied for coverage under the State Water Resources Control Board's General Permit for Storm Water Discharges Associated with Construction Activity (Order 2009-0009-DWQ) for the warehouse expansion project. However, it failed to do so.
89. This Order requires the Discharger to file a Notice of Intent to obtain storm water coverage under the State Water Resources Control Board's General Permit for Storm Water Discharges Associated with Construction Activity (Order 2009-0009-DWQ) for any future construction project that meet the conditions for coverage under the Construction General Permit.
90. Finding 68 of the 2013 WDRs states that Morning Star "prevents all storm water from leaving the tomato processing facility during the processing season" and therefore the Discharger is not required to obtain coverage under General Permit for Industrial Storm Water Discharges Associated with Industrial Activities (NPDES General Permit CAS000001). However, Morning Star has significantly expanded its facility. In addition, the State Water Board's Industrial Storm Water General Permit has been renewed (i.e., Order 2014-0057-DWQ) and contains new requirements. This Order requires that Morning Star review the Industrial Storm Water General Permit and determine whether it must apply for coverage. If not, Morning Star must submit a Notice of Non-Applicability.

REGULATORY CONSIDERATIONS

91. As a result of the events and activities described in this Order, the Central Valley Water Board finds that the Discharger has caused or permitted waste to be discharged in such a manner that it has created, and continues to threaten to create, a condition of pollution or nuisance. The Board also finds that a discharge of waste is taking place or threatening to take place in violation of WDRs Order R5-2013-0144, as described in the Findings of this Order. This Order requires the Discharger to take appropriate remedial action and to comply in accordance with the time schedule set forth below.
92. The *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fourth 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 Board. These requirements implement the Basin Plan.
93. Local drainage is to the Colusa Basin Drain. The beneficial uses of Colusa Basin Drain as stated in the Basin Plan, are agricultural supply; water contact recreation; warm freshwater habitat; migration of aquatic organisms; spawning, reproduction, and/or early development; and wildlife habitat.
94. The beneficial uses of the underlying groundwater, as specified in the Basin Plan are municipal, domestic, and industrial supply.
95. Section 13050(m) of the California Water Code defines “nuisance” as anything which meets the following requirements:
 - (1) Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property.
 - (2) Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.
 - (3) Occurs during, or as a result of, the treatment or disposal of wastes.
96. Section 13301 of the California Water Code states in part: *“When a Regional Board finds that a discharge of waste is taking place or threatening to take place in violation of the requirements or discharge prohibitions prescribed by the regional board or the state board, the board may issue an order to cease and desist and direct that those persons not complying with the requirements or discharge prohibitions (a) comply forthwith, (b) comply in accordance with a time schedule set by the board, or (c) in the event of a threatened violation, take appropriate remedial or preventive action.”*
97. Section 13267(b) of the California Water Code 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 discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this*

state person who has discharged, discharges, or is suspected of discharging, or who proposes to discharge waste outside of its region that could affect the quality of waters of the state 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.”

98. The technical reports required by this Order are necessary to ensure compliance with this Order and WDRs Order R5-2013-0144, and to ensure the protection of water quality. The Morning Star Packing Company, LP and Fred Gobel own and operate the facility that discharges waste subject to this Order and WDRs Order R5-2013-0144.
99. The issuance of this Order is being taken for the protection of the environment and as such is exempt from provisions of the California Environmental Quality Act (Pub. Resources Code, § 21000 et seq.) pursuant to California Code of Regulations, title 14, sections 15061 subdivision (b)(3), 15306, 15307, 15308, and 15321 subdivision (a)(2).
100. The 1995 WDRs state that Colusa County certified a Final Environmental Impact Report (EIR), in accordance with the California Environmental Quality Act (CEQA)(Pub. Resources Code, § 21000 et seq.) prior to the construction of the facility. The 2013 WDRs contain the same CEQA finding, and state that because the 2013 WDRs “do not envision or allow any significant change in the Facility or the discharge the action to update the WDRs is exempt from CEQA”. Staff has contacted both the City of Williams and Colusa County and learned that Morning Star was issued building permits between 9 December 2014 and 4 July 2015 for the construction of footings and foundation to the building. However, there is no indication that Morning Star completed the CEQA process for the Cooling Pond expansion, the warehouse expansion, the removal of cropland, the expansion of the Settling Pond, or the silage operation. Therefore, it is appropriate that this Order require that Morning Star come back into compliance with its 2013 WDRs until it goes through the CEQA process and the Board adopts updated WDRs.
101. On _____, in Rancho Cordova, California, after due notice to the Discharger and all other affected persons, the Central Valley Water Board conducted a public hearing at which evidence was received to consider a Cease and Desist Order under Water Code section 13301 to establish a time schedule to achieve compliance with waste discharge requirements.

IT IS HEREBY ORDERED that, pursuant to Water Code Sections 13301 and 13267, Morning Star Packing Company, LP and Fred Gobel shall implement the following measures in order to comply with WDRs Order R5-2013-0144.

This Order requires submittal of technical reports. These technical reports shall contain the information and decisions required by the following paragraphs. If a report is submitted without the required information or decision, then the Discharger is in violation of this Order and subject to additional enforcement action.

The Board has transitioned to a paperless office. Therefore, all technical reports required by this Order must be converted to a searchable pdf file and emailed to centralvalleysacramento@waterboards.ca.gov. The following information shall be included in the body of the email: Attention: Guy Childs, Compliance Section, Waste Discharge to Land Unit. In addition, include the Discharger name, facility name, county, and CIWQS place ID (272617) in the body of the email.

Restoring Cooling Pond and Settling Pond, Replacing LAAs, and Use of Entire LAA Acreage

1. **Effective immediately**, wastewater shall be applied to the 695 acres of cropland described in the WDRs, including LAAs MS20A, MS20B, and the Gobel property (field MS1).
2. By **1 March 2016**, the Discharger shall submit a *Cooling Pond, Settling Pond, and LAA Replacement Workplan*. The Workplan shall contain a description of the work and schedule for (a) restoring the Cooling Pond to its permitted size of 60 acres and volume of 210 acre-feet, (b) restoring the Settling Pond to its permitted volume of 5 acre-feet, and (c) restoring land application areas MS20A, MS20B, and MS21 (a total of 90.5 acres) for use as cropland. The schedule to complete the work shall not extend beyond **1 June 2016**.
3. **At least 15 days before beginning the restoration**, the Discharger shall file a Notice of Intent to obtain storm water coverage under the State Water Resources Control Board General Storm Water Permit 2009-0009-DWQ for the construction associated with restoring the Cooling Pond to 60 acres, the Settling Pond to 5-acre feet, and replacing LAAs MS20A, MS20B, and MS21.
4. By **15 June 2016**, the Discharger shall submit a *Cooling Pond, Settling Pond, and LAA Replacement Report of Results* showing that the Cooling Pond has been restored to its original size and volume, and that LAAs MS20A, MS20B, and MS21 have been replaced and planted with a crop.
5. By **15 July 2016**, the Discharger shall submit a *Gobel Field Report* documenting that an agreement is in place to allow wastewater to be applied to the Gobel property, field MS1, during each processing season as long as WDRs Order R5-2013-0144 remains in effect.

Unauthorized Discharge of Organic Waste to Cooling Pond

6. **Effective immediately**, this Order prohibits the discharge of organic matter (tomato waste) into the Cooling Pond. By **15 May 2016**, the Discharger shall submit a *Cooling Pond Influent Report* documenting the changes that have been made to the evaporation units and other facility processes to ensure that organic matter is not discharged to the Cooling Pond. The report shall also clearly describe the waste streams which are directed to the Cooling Pond and provide estimated constituent concentrations for each waste stream.
7. Beginning **1 June 2016**, the Discharger shall collect samples from the influent to the Cooling Pond on a weekly basis. The samples shall be analyzed for BOD, FDS, total

nitrogen, and the results submitted with the monthly monitoring reports required by the MRP.

Odor Monitoring and Mitigation

8. By **15 March 2016**, the Discharger shall submit a *Comprehensive Review of Odor Causing Conditions Report*. The review shall include an evaluation of the odor potential from each of the waste streams, the Cooling Pond, the Settling Pond, the solid waste, the irrigation ditches, and the irrigation methods. The review shall evaluate physical and chemical methods to ensure compliance, including the need for additional aerators, dissolved aeration flotation (DAF) units, and screening or other solids removal techniques at the Settling Pond, and at the Cooling Pond, aerators, screening, and a cooling tower, as well as methods to and methods to ensure that no organic waste enters the Cooling Pond. The review shall propose improvement(s) to be implemented prior to the 2016 processing season, and shall contain sufficient technical detail to demonstrate confidence that the proposed improvement(s) will prevent off-site odors. If desired, this report may be combined with the *Dissolved Oxygen Compliance Feasibility Study*.
9. By **15 April 2016** the Discharger shall submit an *Odor Identification and Mitigation Plan*. The plan shall describe how the Morning Star facility and land application areas will be continuously monitored during the processing season using real time sensors, such as Odowatch© (or similar system for odor monitoring) to identify the presence of nuisance odors associated with wastewater treatment and disposal. The plan must also include notification and corrective action procedures for Morning Star to follow when odors are identified.
10. By **15 June 2016**, the Discharger shall submit an *Implementation Report* certifying that a real time continuous odor monitoring system has been installed in accordance with the approved *Odor Identification and Mitigation Plan*. The Discharger shall provide Water Board staff with log-in information so that staff can also review the real time data. The Report shall also describe the physical improvements that have been implemented as a result of the *Comprehensive Review of Odor Causing Conditions Report*.
11. Beginning **1 July 2016**, the Discharger shall submit monthly *Odor Monitoring Reports*. Each report shall cover the previous month, and shall include odor plume maps and a discussion of odors attributable to the processing facility and land application areas. If odors are present, then the report shall also describe the actions that Morning Star took in response reduce/prevent the odors. The reports shall be submitted from 1 July through 1 November each year, until this Order is rescinded or the Executive Officer determines that they are no longer necessary.

Dissolved Oxygen Compliance

12. By **15 March 2016**, the Discharger shall submit a *Dissolved Oxygen Compliance Feasibility Study* which evaluates physical and chemical improvements which would result the wastewater in the Settling Pond and Cooling Pond continuously meeting compliance with Discharge Specifications D.7 and D.8. The study shall also evaluate BOD reduction and solids screening as a method of reducing organic loading to aid in preventing odors and achieving the required dissolved oxygen content. The study shall

propose improvement(s) to be implemented prior to the 2016 processing season, and shall contain sufficient technical detail to demonstrate confidence that the proposed improvement(s) will result in compliance. If desired, this report may be combined with the *Comprehensive Review of the Odor Causing Conditions Report*.

Sampling and Analysis Plan

13. By **1 July 2016** the Discharger shall submit a *Sampling and Analysis Plan (SAP)* that describes specific sampling procedures for all samples required to be collected by the MRP, including groundwater samples. The SAP shall also describe the procedure and schedule for calibration of hand-held meters. The SAP shall document that dissolved oxygen shall be measured in situ (i.e., probes shall be lowered into the wastewater). The SAP shall also contain a discussion of the sampling location for each pond. Samples shall be collected at a location that complies with the MRP (i.e., at a depth of one foot, opposite the inlet).

BOD and Nitrogen Loading on the LAAs

14. By **1 July 2016**, the Discharger shall submit an *Effluent Loading Update* that documents the changes that the Discharger has made to ensure that, when irrigating with wastewater on its LAAs, it will comply with the BOD loading limit of 100 lb/ac/day and nitrogen loading limit of annual crop demand. In addition, the Discharger shall propose changes to the oversight of its irrigation practices, in particular, to determine in real-time whether overloading is occurring, or has the potential to occur, and the changes that will be made at that time to prevent overloading.

Groundwater Pollution

15. By **1 May 2016**, Morning Star shall submit the *Groundwater Trigger Reports* as required by the "Groundwater Trigger Concentrations" section of the MRP. The *Reports* shall be related to the TDS concentration in monitoring well MW-9 for 2014 and 2015. Morning Star shall submit both the Technical Evaluation and the Action Plan, with the content as described on page 6 of the MRP.
16. By **1 August 2016**, Morning Star shall submit a *Groundwater Pollution Mitigation Report* describing the steps it has taken to prevent groundwater pollution by manganese. The report shall also predict how long it will take for manganese concentrations in the groundwater to return to background conditions, and the steps that Morning Star will take if concentrations do not begin to decline in a reasonable period.

Solid Waste Management

17. **Effective immediately**, this Order prohibits the discharge of tomato solids to the irrigation ditches leading to the land application areas. The *Comprehensive Review of Odor Causing Conditions Report*, due by **15 March 2016** (described above) shall contain proposals for improving the screening operations such that no tomato solids enter the irrigation ditches. All improvements shall be in place prior to the 2016 processing season.

18. Beginning **1 June 2016**, the Discharger shall conduct daily inspections of all irrigation ditches, and shall record whether or not tomato solids are present. If so, the Discharger shall immediately remove the solids and dispose of them appropriately. The results of the inspections and removal activities shall be submitted with the monthly monitoring reports required by the MRP.
19. **Effective immediately**, the generation of silage on the Morning Star property is prohibited. All silage produced during the 2015 processing season shall be removed no later than **1 August 2016**.
20. The *Residual Solids Management Plan* described in Provision H.3 of the WDRs shall be submitted by **1 July 2016**. Residual solid waste (including cull tomatoes, vines, and tomato pomace) may not be applied to the land application areas until the Executive Officer has provided written approval of the report.

Storm Water Permit Coverage

21. Morning Star shall review the Industrial Storm Water General Permit (Order 2014-0057-DWQ, the *General Permit for Industrial Storm Water Discharges Associated with Industrial Activities*) and determine whether it must apply for coverage or submit a Notice of Non Applicability. By **1 August 2016**, Morning Star shall submit proof that it either submitted a Notice of Intent or a Notice of Non-Applicability to the State Water Resources Control Board using the SMARTS database (<https://smarts.waterboards.ca.gov/smarts/faces/SwSmartsLogin.jsp>)

Other Requirements

As required by the California Business and Professions Code sections 6735, 7835, and 7835.1, all reports shall be prepared by, or under the supervision of, a California Registered Engineer or Professional Geologist and signed by the registered professional. Each technical report submitted by the Discharger shall contain the professional's signature and/or stamp of the seal.

As required by Provision F.6, of WDRs Order 5-00-142 and General Reporting Requirement B.3 of Standard Provisions and Reporting Requirements For Waste Discharge Requirements, all reports and transmittal letters shall be signed by either a principal executive officer of the corporation with at least the level of senior vice-president or a duly authorized representative in accordance with the WDRs, and any person signing a document submitted to comply with this Order shall make the following certification:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my knowledge and on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

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 or may issue a complaint for administrative civil liability.

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 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 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 _____ 2016.

PAMELA C. CREEDON, Executive Officer

(Date)

Attachment A: Summary of odor complaints

GJC/WSW: 20-Nov-15

ATTACHMENT A

The following table summarizes the odor complaints received during Morning Star's 2015 tomato packing season, as well as the off-site odors reported by Morning Star.

Date	Reporting Party	Location	Additional Information
6 August 2015	County Health	Not Given	Received complaint regarding odors from the Morning Star
11 to 14 August 2015	County Health	Not Given	Received complaints regarding odors from the Morning Star
20 August 2015	Board staff	Abel/Husted	Slight odor at 8:02 am
21 August 2015	Morning Star	Crawford & Zumwalt	Slight odor at 12:10 pm
22 August 2015	Morning Star	Crawford & Zumwalt	None to slight odor at 6:15 am
22 August 2015	Morning Star	Abel/Husted	Moderate odor at 6:15 am
22 August 2015	Morning Star	Valley Ranch Southeast	None to slight odor at 9:45 am
22 August 2015	Morning Star	Crawford & Zumwalt	None to slight odor at 9:45 am
22 August 2015	Morning Star	Crawford & Zumwalt	Slight odor at 3:10 pm
24 August 2015	Morning Star	Crawford & Zumwalt	None to slight odor at 6:21 pm
25 August 2015	Morning Star	Valley Ranch Southeast	None to slight odor at 5:40 am
26 August 2015	Morning Star	Abel/Husted	Slight odor at 6:15 am
26 August 2015	Morning Star	Abel/Husted	Slight odor at 9:34 am
26 August 2015	Morning Star	Abel/Husted	Slight odor at 6:21 pm
27 August 2015	Morning Star	Abel/Husted	Slight odor at 7:41 am
27 August 2015	Morning Star	Abel/Husted	Slight odor at 1:35 pm
27 August 2015	Morning Star	Abel/Husted	Slight odor at 6:40 pm
28 August 2015	Morning Star	Abel/Husted	Slight odor at 7:10 am
28 August 2015	Morning Star	Abel/Husted	Slight odor at 10:40 am
28 August 2015	Morning Star	Crawford & Zumwalt	None to slight odor at 5:49 pm
28 August 2015	Morning Star	Abel/Husted	Slight odor at 5:49 pm
29 August 2015	Morning Star	Crawford & Zumwalt	None to slight odor at 5:10 am
29 August 2015	Morning Star	Abel/Husted	Slight odor at 5:10 am
29 August 2015	Morning Star	Chevron Station	None to slight odor at 10:50 pm
29 August 2015	Morning Star	Valley Ranch Southeast	None to slight odor at 10:50 pm
29 August 2015	Morning Star	Crawford &	None to slight odor at 10:50

Date	Reporting Party	Location	Additional Information
		Zumwalt	pm
29 August 2015	Morning Star	Abel/Husted	Slight odor at 10:50 pm
29 August 2015	Morning Star	Abel/Husted	Slight odor at 5:10 pm
30 August 2015	Morning Star	Abel/Husted	Slight odor at 7:10 am
30 August 2015	Morning Star	Abel/Husted	Slight odor at 9:50 am
30 August 2015	Morning Star	Abel/Husted	Slight odor at 6:10 pm
31 August 2015	Morning Star	Abel/Husted	Slight odor at 6:15 am
31 August 2015	Morning Star	Abel/Husted	Slight odor at 2:00 pm
31 August 2015	Morning Star	Crawford & Zumwalt	None to slight odor at 6:20 pm
31 August 2015	Morning Star	Abel/Husted	Slight odor at 6:20 pm
1 Sept 2015	Morning Star	Abel/Husted	Slight odor at 7:30 am
1 Sept 2015	Morning Star	Crawford & Zumwalt	None to slight odor at 12:45 pm
1 Sept 2015	Morning Star	Abel/Husted	Slight odor at 12:45 pm
1 Sept 2015	Morning Star	Valley Ranch Southeast	None to slight odor at 6:05 pm
1 Sept 2015	Morning Star	Crawford & Zumwalt	Slight odor at 6:05 pm
1 Sept 2015	Morning Star	Abel/Husted	Slight odor at 6:05 pm
2 Sept 2015	Morning Star	Valley Ranch Southeast	None to slight odor at 5:10 am
2 Sept 2015	Morning Star	Crawford & Zumwalt	Slight odor at 5:10 am
2 Sept 2015	Morning Star	Abel/Husted	Slight odor at 5:10 am
2 Sept 2015	Morning Star	Valley Ranch Southeast	None to slight odor at 8:00 am
2 Sept 2015	Morning Star	Crawford & Zumwalt	None to slight odor at 8:00 am
2 Sept 2015	Morning Star	Abel/Husted	Slight odor at 8:00 am
4 Sept 2015	Morning Star	Abel/Husted	None to slight odor at 10:03 am
6 Sept 2015	Morning Star	Abel/Husted	Slight odor at 6:15 pm
7 Sept 2015	Morning Star	Abel/Husted	None to slight odor at 7:35 am
7 Sept 2015	Morning Star	Abel/Husted	None to slight odor at 10:50 am
10 Sept 2015	City of Williams	Crawford Road	Several people complained that day; reported odors for multiple days
13 Sept 2015	Morning Star	Abel/Husted	None to slight odor at 7:40 pm
14 Sept 2015	Morning Star	Valley Ranch Southeast	None to slight odor at 8:40 am
14 Sept 2015	Morning Star	Crawford & Zumwalt	None to slight odor at 8:40 am
14 Sept 2015	Morning Star	Abel/Husted	Slight odor at 8:40 am

Date	Reporting Party	Location	Additional Information
14 Sept 2015	Morning Star	Valley Ranch Southeast	None to slight odor at 1:03 pm
14 Sept 2015	Morning Star	Crawford & Zumwalt	None to slight odor at 1:03 pm
14 Sept 2015	Morning Star	Abel/Husted	Slight odor at 1:03 pm
14 Sept 2015	Morning Star	Valley Ranch Southeast	None to slight odor at 6:41 pm
14 Sept 2015	Morning Star	Crawford & Zumwalt	None to slight odor at 6:41 pm
14 Sept 2015	Morning Star	Abel/Husted	Slight odor at 6:41 pm
15 Sept 2015	Morning Star	Valley Ranch Southeast	None to slight odor at 7:32 pm
15 Sept 2015	Morning Star	Crawford & Zumwalt	None to slight odor at 7:32 pm
15 Sept 2015	Morning Star	Abel/Husted	Slight odor at 7:32 pm
16 Sept 2015	Morning Star	Valley Ranch Southeast	Slight odor at 6:50 am
16 Sept 2015	Morning Star	Crawford & Zumwalt	Slight odor at 6:50 am
16 Sept 2015	Morning Star	Abel/Husted	Slight odor at 6:50 am
16 Sept 2015	Morning Star	Valley Ranch Southeast	None to slight odor at 10:54 am
16 Sept 2015	Morning Star	Crawford & Zumwalt	None to slight odor at 10:54 am
16 Sept 2015	Morning Star	Abel/Husted	Slight odor at 10:54 am
16 Sept 2015	Morning Star	Valley Ranch Southeast	None to slight odor at 8:04 pm
16 Sept 2015	Morning Star	Crawford & Zumwalt	None to slight odor at 8:04 pm
16 Sept 2015	Morning Star	Abel/Husted	None to slight odor at 8:04 pm
18 Sept 2015	Morning Star	Abel/Husted	None to slight odor at 7:43 pm
19 Sept 2015	Morning Star	Abel/Husted	None to slight odor at 4:37 pm
21 Sept 2015	Morning Star	Valley Ranch Southeast	None to slight odor at 9:30 pm
21 Sept 2015	Morning Star	Abel/Husted	None to slight odor at 9:30 pm
21 Sept 2015	County Health	Butte View Dr.	Odors in afternoon-evening hours
22 Sept 2015	Morning Star	Crawford & Zumwalt	None to slight odor at 7:07 am
22 Sept 2015	Morning Star	Abel/Husted	None to slight odor at 7:07 am
22 Sept 2015	Morning Star	Valley Ranch Southeast	None to slight odor at 4:35 pm
22 Sept 2015	Morning Star	Crawford & Zumwalt	None to slight odor at 4:35 pm
22 Sept 2015	Morning Star	Abel/Husted	Slight odor at 4:35 pm

Date	Reporting Party	Location	Additional Information
22 Sept 2015	Morning Star	Valley Ranch Southeast	None to slight odor at 7:45 pm
22 Sept 2015	Morning Star	Crawford & Zumwalt	None to slight odor at 7:45 pm
22 Sept 2015	Morning Star	Abel/Husted	Slight odor at 7:45 pm
23 Sept 2015	Morning Star	Valley Ranch Southeast	None to slight odor at 9:03 pm
23 Sept 2015	Morning Star	Crawford & Zumwalt	None to slight odor at 9:03 pm
23 Sept 2015	Morning Star	Abel/Husted	Slight odor at 9:03 pm
24 Sept 2015	Morning Star	Abel/Husted	None to slight odor at 7:51 am
24 Sept 2015	Morning Star	Abel/Husted	Slight odor at 3:15 pm
24 Sept 2015	Morning Star	Valley Ranch Southeast	None to slight odor at 7:22 pm
24 Sept 2015	Morning Star	Crawford & Zumwalt	None to slight odor at 7:22 pm
24 Sept 2015	Morning Star	Abel/Husted	Slight odor at 7:22 pm
25 Sept 2015	Morning Star	Abel/Husted	None to slight odor at 9:40 pm
25 Sept 2015	County Health	Butte View Dr.	Odors in afternoon-evening hours
26 Sept 2015	Morning Star	Abel/Husted	None to slight odor at 8:11 am
26 Sept 2015	Morning Star	Abel/Husted	None to slight odor at 10:53 pm
26 Sept 2015	Morning Star	Abel/Husted	Slight odor at 10:03 pm
27 Sept 2015	Morning Star	Abel/Husted	None to slight odor at 10:17 am
27 Sept 2015	Morning Star	Crawford & Zumwalt	None to slight odor at 1:01 pm
27 Sept 2015	Morning Star	Abel/Husted	Slight odor at 1:01 pm
27 Sept 2015	Morning Star	Valley Ranch Southeast	None to slight odor at 9:57 pm
27 Sept 2015	Morning Star	Crawford & Zumwalt	None to slight odor at 9:57 pm
27 Sept 2015	Morning Star	Abel/Husted	Slight odor at 9:57 pm
27 Sept 2015	County Health	Butte View Dr.	Odors in afternoon-evening hours
28 Sept 2015	Morning Star	Abel/Husted	Slight odor at 6:57 am
28 Sept 2015	Morning Star	Abel/Husted	Slight odor at 9:31 am
28 Sept 2015	Morning Star	Valley Ranch Southeast	None to slight odor at 10:13 pm
28 Sept 2015	Morning Star	Crawford & Zumwalt	None to slight odor at 10:13 pm
28 Sept 2015	Morning Star	Abel/Husted	Slight odor at 10:13 pm
29 Sept 2015	Morning Star	Valley Ranch Southeast	None to slight odor at 8:55 am

Date	Reporting Party	Location	Additional Information
29 Sept 2015	Morning Star	Crawford & Zumwalt	None to slight odor at 8:55 am
29 Sept 2015	Morning Star	Abel/Husted	Slight odor at 8:55 am
29 Sept 2015	Morning Star	Valley Ranch Southeast	None to slight odor at 2:20 pm
29 Sept 2015	Morning Star	Crawford & Zumwalt	None to slight odor at 2:20 pm
29 Sept 2015	Morning Star	Abel/Husted	Slight odor at 2:20 pm
29 Sept 2015	Morning Star	Valley Ranch Southeast	None to slight odor at 10:15 pm
29 Sept 2015	Morning Star	Crawford & Zumwalt	None to slight odor at 10:15 pm
29 Sept 2015	Morning Star	Abel/Husted	Slight odor at 10:15 pm
30 Sept 2015	Morning Star	Valley Ranch Southeast	None to slight odor at 9:12 am
30 Sept 2015	Morning Star	Crawford & Zumwalt	None to slight odor at 9:12 am
30 Sept 2015	Morning Star	Abel/Husted	Slight odor at 9:12 am
30 Sept 2015	Morning Star	Valley Ranch Southeast	None to slight odor at 1:40 pm
30 Sept 2015	Morning Star	Crawford & Zumwalt	None to slight odor at 1:40 pm
30 Sept 2015	Morning Star	Abel/Husted	Slight odor at 1:40 pm
30 Sept 2015	Morning Star	Valley Ranch Southeast	None to slight odor at 7:44 pm
30 Sept 2015	Morning Star	Crawford & Zumwalt	None to slight odor at 7:44 pm
30 Sept 2015	Morning Star	Abel/Husted	Slight odor at 7:44 pm
1 October 2015	Morning Star	Abel/Husted	Slight odor at 9:20 am
1 October 2015	Morning Star	Valley Ranch Southeast	None to slight odor at 1:41 pm
1 October 2015	Morning Star	Crawford & Zumwalt	None to slight odor at 1:41 pm
1 October 2015	Morning Star	Abel/Husted	Slight odor at 1:41 pm
1 October 2015	Morning Star	Valley Ranch Southeast	None to slight odor at 6:31 pm
1 October 2015	Morning Star	Crawford & Zumwalt	None to slight odor at 6:31 pm
1 October 2015	Morning Star	Abel/Husted	Slight odor at 6:31 pm
2 October 2015	Morning Star	Abel/Husted	None to slight odor at 6:21 am
2 October 2015	Morning Star	Abel/Husted	None to slight odor at 6:21 am
2 October 2015	Morning Star	Abel/Husted	None to slight odor at 8:56 am
2 October 2015	Morning Star	Abel/Husted	None to slight odor at 5:11 pm
4 October 2015	Morning Star	Abel/Husted	None to slight odor at 6:37 pm
5 October 2015	Morning Star	Abel/Husted	None to slight odor at 5:28 am

Date	Reporting Party	Location	Additional Information
5 October 2015	Morning Star	Abel/Husted	Slight odor at 1:54 pm
5 October 2015	Morning Star	Abel/Husted	Sight odor at 6:09 pm
6 October 2015	Morning Star	Abel/Husted	None to slight odor at 5:58 am
6 October 2015	Morning Star	Abel/Husted	Slight odor at 8:21 pm
7 October 2015	Morning Star	Abel/Husted	None to slight odor at 9:11 am
7 October 2015	Morning Star	Abel/Husted	Slight odor at 12:38 pm
7 October 2015	Morning Star	Abel/Husted	None to slight odor at 6:17 pm
8 October 2015	Morning Star	Abel/Husted	None to slight odor at 6:17 pm
9 October 2015	Morning Star	Abel/Husted	None to slight odor at 8:55 am
9 October 2015	Morning Star	Abel/Husted	None to slight odor at 1:40 pm
9 October 2015	Morning Star	Abel/Husted	None to slight odor at 7:11 pm
12 October 2015	Morning Star	Abel/Husted	None to slight odor at 7:17 am
12 October 2015	Morning Star	Abel/Husted	None to slight odor at 2:02 pm
12 October 2015	Morning Star	Abel/Husted	None to slight odor at 7:36 pm