APPENDIX H

Dairy Facility Nutrient Management Plan Report and Waste Management Plan Report

This page intentionally
left blank.

Nutrient Management Plan Report
General Order No. R5-2007-0035, Attachment C
July 1, 2009 deadline

DAIRY FACILITY INFORMATION

A. NAME OF DAIRY OR BUSINESS OPERATING THE DAIRY: Hillcrest Dairy LLC

Physical address of dairy:

1901 N Hayden RD	Le Grand	Merced	95333
Number and Street	City	County	Zip Code

Street and nearest cross street (if no address):

Date facility was originally placed in operation: 06/12/2002

Regional Water Quality Control Board Basin Plan designation: San Joaquin River Basin

County Assessor Parcel Number(s) for dairy facility:

0053-0010-0013-0000 0053-0010-0042-0000 0053-0010-0043-0000

B. OPERATOR NAME: Hoekstra, Edward Telephone no.: (209) 382-0669 (Landline) (209) 535-8591 (Cellular)

1901 N Hayden RD	Le Grand	CA	95333
Mailing Address Number and Street	City	State	Zip Code

Operator should receive Regional Board correspondence (check): [X] Yes [ ] No

C. LEGAL OWNER NAME: Hoekstra, Edward Telephone no.: (209) 382-0669 (Landline) (209) 535-8591 (Cellular)

1901 N Hayden RD	Le Grand	CA	95333
Mailing Address Number and Street	City	State	Zip Code

Owner should receive Regional Board correspondence (check): [X] Yes [ ] No

D. CONTACT NAME: Ramos, Joe Telephone no.: (209) 250-2471 (Landline) (209) 226-2375 (Cellular)

Title: Technical Service Provider

2857 Geer RD, STE A	Turlock	CA	95382
Mailing Address Number and Street	City	State	Zip Code

Nutrient Management Plan Report
General Order No. R5-2007-0035, Attachment C
July 1, 2009 deadline

AVAILABLE NUTRIENTS

A. HERD INFORMATION

The milk cow dairy is currently regulated under individual Waste Discharge Requirements.

Total number of milk and dry cows combined as a baseline value in response to the Report of Waste Discharge (ROWD) request of October, 2005:

5,750 *milk and dry cows combined (regulatory review is required for any expansion)*

	Milk Cows	Dry Cows	Bred Heifers (15-24 mo.)	Heifers (7-14 mo. to breeding)	Calves (4-6 mo.)	Calves (0-3 mo.)
Present count	4,000	750	1,400	1,400	500	0
Maximum count	5,000	750	1,625	1,625	750	0
Avg live weight (lbs)	1,400	1,400	900	650		
Daily hours on flush	16	5	5	5	5	0

Predominant milk cow breed: Holstein

Average milk production: 72 *pounds per cow per day*

B. IRRIGATION SOURCES

Irrigation Source Name	Type	Nitrogen (mg/L)	Phosphorus (mg/L)	Potassium (mg/L)	Discharge Rate
Merced Irrigation District	Groundwater (well)	0.01			2,250 *gpm*
Merced Irrigation District Trees	Surface water (canal, river)	0.01			900 *gpm*
Well F108	Groundwater (well)	2.96			600 *gpm*
Well F116	Groundwater (well)	0.01			2,500 *gpm*
Well F117	Groundwater (well)	0.01			300 *gpm*
Well F118	Groundwater (well)	0.01			2,000 *gpm*

C. NUTRIENT IMPORTS

Nutrient Type/Name	Quantity	Moisture	Nitrogen	Phosphorus (as P2O5)	Potassium (as K2O)
46-0-0	8.25 *ton*	0.1%	46.000%	0.000%	0.000%
9-12-4	68.50 *ton*	0.1%	9.000%	12.000%	4.000%
10-0-8	160.00 *ton*	0.1%	10.000%	0.000%	8.000%
32-0-0	208.00 *ton*	0.1%	32.000%	0.000%	0.000%

Total nitrogen imported: 184,854.96 *lbs*

Total phosphorus imported: 7,177.10 *lbs*

Total potassium imported: 25,770.60 *lbs*

D. NUTRIENT EXPORTS

Nutrient Type/Name	Quantity	Moisture	Nitrogen	Phosphorus (as P2O5)	Potassium (as K2O)
Solid Manure Spring	9,999.00 *ton*	30.0%	2.000%	0.750%	2.150%
Solid Manure Fall	9,999.00 *ton*	25.0%	2.330%	1.000%	1.800%
Solid Manure Spring	6,600.00 *ton*	30.0%	2.000%	0.750%	2.150%
Solid Manure Fall	6,600.00 *ton*	25.0%	2.330%	1.000%	1.800%

Total nitrogen exported: 1,044,907.05 *lbs*

Total phosphorus exported: 184,970.96 *lbs*

Total potassium exported: 786,676.41 *lbs*

E. STORAGE PERIOD

Storage period is the maximum period of time anticipated between land application of process wastewater (from storage ponds/lagoons) to croplands. A qualified agronomist and civil engineer should collaborate and collectively consider predominant soil types, soil infiltration rates, maximum depth, available water, field capacity, permanent wilting point, allowable depletion, crop water use, evapotranspiration, precipitation, irrigation system capacity, water delivery constraints, crop nutrient requirements, soil nutrient adsorbtion/desorption, rooting depth, nutrient accumulation/availability for current and future crop needs, facility wide process wastewater storage capacity and other factors as deemed necessary across all croplands where process wastewater is applied in selecting a storage period. In many cases conflicts will arise between crop water demands, crop nutrient demands and insufficient process wastewater storage capacity. Process wastewater may not be the best choice as a source of either water and/or nutrients to meet crop demands throughout the year. Groundwater and surface water vulnerability has been considered.

The storage period selected in this Nutrient Management Plan is consistent with the storage period selected in the Waste Management Plan.

Storage period: 120 *days*

APPLICATION AREA

A. ASSESSOR PARCEL NUMBER: 0037-0040-0003-0000
Legal owner of parcel: Owned by Dairy

ASSESSOR PARCEL NUMBER: 0037-0040-0004-0000
Legal owner of parcel: Owned by Dairy

ASSESSOR PARCEL NUMBER: 0053-0080-0045-0000
Legal owner of parcel: Owned by Dairy

ASSESSOR PARCEL NUMBER: 0053-0100-0042-0000
Legal owner of parcel: Owned by Dairy

ASSESSOR PARCEL NUMBER: 0053-0100-0043-0000
Legal owner of parcel: Owned by Dairy

ASSESSOR PARCEL NUMBER: 0053-0100-0044-0000
Legal owner of parcel: Owned by Dairy

ASSESSOR PARCEL NUMBER: 0053-0100-0047-0000
Legal owner of parcel: Owned by Dairy

ASSESSOR PARCEL NUMBER: 0053-0100-0065-0000
Legal owner of parcel: Owned by Dairy

ASSESSOR PARCEL NUMBER: 0053-0100-0069-0000
Legal owner of parcel: Owned by Dairy

ASSESSOR PARCEL NUMBER: 0053-0110-0006-0000
Legal owner of parcel: Owned by Dairy

ASSESSOR PARCEL NUMBER: 0053-0150-0006-0000
Legal owner of parcel: Owned by Dairy

ASSESSOR PARCEL NUMBER: 0053-0150-0032-0000
Legal owner of parcel: Owned by Dairy

ASSESSOR PARCEL NUMBER: 0053-0150-0033-0000
Legal owner of parcel: Owned by Dairy

B. FIELD NAME: 1

Cropable acres: 59

Predominant soil type: Loam

Do irrigation system head-to-head flow conditions exist on the field? [ ] Yes [X] No

Can fresh water for irrigation purposes be delived to the field year round? [ ] Yes [X] No

Can process wastewater be delivered to the field at agronomic rates and times? [X] Yes [ ] No

Tailwater management method: Returned to tailwater pond for reuse

Crops grown and rotation:

Crop Type	Plant Date	Harvest Date	Acres Planted
Corn, silage	Early April	Early August	59
Sorghum-Sudangrass, forage	Early August	Late October	59

FIELD NAME: 10

Cropable acres: 67

Predominant soil type: Clay

Do irrigation system head-to-head flow conditions exist on the field? [ ] Yes [X] No

Can fresh water for irrigation purposes be delived to the field year round? [X] Yes [ ] No

Can process wastewater be delivered to the field at agronomic rates and times? [ ] Yes [X] No

Tailwater management method: Micro Jet Irriigation

Crops grown and rotation:

Crop Type	Plant Date	Harvest Date	Acres Planted
Pistachio	Early January	Middle October	67

FIELD NAME: 11

Cropable acres: 21

Predominant soil type: Loam

Do irrigation system head-to-head flow conditions exist on the field? [ ] Yes [X] No

Can fresh water for irrigation purposes be delived to the field year round? [X] Yes [ ] No

Can process wastewater be delivered to the field at agronomic rates and times? [ ] Yes [X] No

Tailwater management method: Micro Jet Irriigation

Crops grown and rotation:

Crop Type	Plant Date	Harvest Date	Acres Planted
Pistachio	Early January	Middle October	21

FIELD NAME: 12

Cropable acres: 93

Predominant soil type: Loam

Do irrigation system head-to-head flow conditions exist on the field? [X] Yes [ ] No

Can fresh water for irrigation purposes be delived to the field year round? [X] Yes [ ] No

Can process wastewater be delivered to the field at agronomic rates and times? [X] Yes [ ] No

Tailwater management method: Returned to top of field for reuse

Crops grown and rotation:

Crop Type	Plant Date	Harvest Date	Acres Planted
Corn, silage	Early April	Early August	92
Sorghum-Sudangrass, forage	Early August	Late October	92

FIELD NAME: 13

Cropable acres: 79

Predominant soil type: Clay

Do irrigation system head-to-head flow conditions exist on the field? [ ] Yes [X] No

Can fresh water for irrigation purposes be delived to the field year round? [ ] Yes [X] No

Can process wastewater be delivered to the field at agronomic rates and times? [X] Yes [ ] No

Tailwater management method: Returned to tailwater pond for reuse

Crops grown and rotation:

Crop Type	Plant Date	Harvest Date	Acres Planted
Wheat, silage, soft dough	Early November	Early May	79
Corn, silage	Early June	Late September	79

FIELD NAME: 14

Cropable acres: 74

Predominant soil type: Clay

Do irrigation system head-to-head flow conditions exist on the field? [ ] Yes [X] No

Can fresh water for irrigation purposes be delived to the field year round? [ ] Yes [X] No

Can process wastewater be delivered to the field at agronomic rates and times? [X] Yes [ ] No

Tailwater management method: Returned to tailwater pond for reuse

Crops grown and rotation:

Crop Type	Plant Date	Harvest Date	Acres Planted
Wheat, silage, soft dough	Early November	Early May	74
Corn, silage	Early June	Late September	74

FIELD NAME: 15

Cropable acres: 78

Predominant soil type: Clay

Do irrigation system head-to-head flow conditions exist on the field? [ ] Yes [X] No

Can fresh water for irrigation purposes be delived to the field year round? [ ] Yes [X] No

Can process wastewater be delivered to the field at agronomic rates and times? [X] Yes [ ] No

Tailwater management method: Returned to tailwater pond for reuse

Crops grown and rotation:

Crop Type	Plant Date	Harvest Date	Acres Planted
Wheat, silage, soft dough	Early November	Early May	78
Corn, silage	Early June	Late September	78

FIELD NAME: 16

Cropable acres: 50

Predominant soil type: Clay

Do irrigation system head-to-head flow conditions exist on the field? [X] Yes [ ] No

Can fresh water for irrigation purposes be delived to the field year round? [X] Yes [ ] No

Can process wastewater be delivered to the field at agronomic rates and times? [X] Yes [ ] No

Tailwater management method: Drained through adjacent field to tailwater pond

Crops grown and rotation:

Crop Type	Plant Date	Harvest Date	Acres Planted
Wheat, silage, soft dough	Early November	Early May	50
Corn, silage	Early June	Late September	50

FIELD NAME: 17

Cropable acres: 28

Predominant soil type: Clay

Do irrigation system head-to-head flow conditions exist on the field? [ ] Yes [X] No

Can fresh water for irrigation purposes be delived to the field year round? [ ] Yes [X] No

Can process wastewater be delivered to the field at agronomic rates and times? [ ] Yes [X] No

Tailwater management method: Drained through adjacent field to tailwater pond

Crops grown and rotation:

Crop Type	Plant Date	Harvest Date	Acres Planted
Wheat, silage, soft dough	Early November	Early May	28
Corn, silage	Early June	Late September	28

FIELD NAME: 18

Cropable acres: 50

Predominant soil type: Clay

Do irrigation system head-to-head flow conditions exist on the field? [ ] Yes [X] No

Can fresh water for irrigation purposes be delived to the field year round? [ ] Yes [X] No

Can process wastewater be delivered to the field at agronomic rates and times? [X] Yes [ ] No

Tailwater management method: Drained through adjacent field to tailwater pond

Crops grown and rotation:

Crop Type	Plant Date	Harvest Date	Acres Planted
Wheat, silage, soft dough	Early November	Early May	49
Corn, silage	Early June	Late September	49

FIELD NAME: 2

Cropable acres: 9

Predominant soil type: Loam

Do irrigation system head-to-head flow conditions exist on the field? [ ] Yes [X] No

Can fresh water for irrigation purposes be delived to the field year round? [ ] Yes [X] No

Can process wastewater be delivered to the field at agronomic rates and times? [X] Yes [ ] No

Tailwater management method: Returned to tailwater pond for reuse

Crops grown and rotation:

Crop Type	Plant Date	Harvest Date	Acres Planted
Corn, silage	Early April	Early August	9
Sorghum-Sudangrass, forage	Early August	Late October	9

FIELD NAME: 20 N

Cropable acres: 37

Predominant soil type: Clay

Do irrigation system head-to-head flow conditions exist on the field? [ ] Yes [X] No

Can fresh water for irrigation purposes be delived to the field year round? [ ] Yes [X] No

Can process wastewater be delivered to the field at agronomic rates and times? [ ] Yes [X] No

Tailwater management method: Drained through adjacent fields to tailwater pond

Crops grown and rotation:

Crop Type	Plant Date	Harvest Date	Acres Planted
Wheat, silage, soft dough	Early November	Early May	37
Corn, silage	Early June	Late September	37

FIELD NAME: 20 S

Cropable acres: 43

Predominant soil type: Clay loam

Do irrigation system head-to-head flow conditions exist on the field? [ ] Yes [X] No

Can fresh water for irrigation purposes be delived to the field year round? [X] Yes [ ] No

Can process wastewater be delivered to the field at agronomic rates and times? [ ] Yes [X] No

Tailwater management method: Micro Jet Sprinkler

Crops grown and rotation:

Crop Type	Plant Date	Harvest Date	Acres Planted
Pistachio	Early January	Middle October	43

FIELD NAME: 21

Cropable acres: 15

Predominant soil type: Clay

Do irrigation system head-to-head flow conditions exist on the field? [ ] Yes [X] No

Can fresh water for irrigation purposes be delived to the field year round? [ ] Yes [X] No

Can process wastewater be delivered to the field at agronomic rates and times? [ ] Yes [X] No

Tailwater management method: Drained through adjacent field to tailwater pond

Crops grown and rotation:

Crop Type	Plant Date	Harvest Date	Acres Planted
Wheat, silage, soft dough	Early November	Early May	15
Corn, silage	Early June	Late September	15

FIELD NAME: 22

Cropable acres: 115

Predominant soil type: Clay

Do irrigation system head-to-head flow conditions exist on the field? [ ] Yes [X] No

Can fresh water for irrigation purposes be delived to the field year round? [ ] Yes [X] No

Can process wastewater be delivered to the field at agronomic rates and times? [ ] Yes [X] No

Tailwater management method: Drained to adjacent fields

Crops grown and rotation:

Crop Type	Plant Date	Harvest Date	Acres Planted
Wheat, silage, soft dough	Early October	Early May	115
Corn, silage	Early June	Late September	115

FIELD NAME: 23

Cropable acres: 27

Predominant soil type: Clay

Do irrigation system head-to-head flow conditions exist on the field? [ ] Yes [X] No

Can fresh water for irrigation purposes be delived to the field year round? [ ] Yes [X] No

Can process wastewater be delivered to the field at agronomic rates and times? [ ] Yes [X] No

Tailwater management method: Micro Jet Irrigation

Crops grown and rotation:

Crop Type	Plant Date	Harvest Date	Acres Planted
Pistachio	Early January	Middle October	27

FIELD NAME: 24 E

Cropable acres: 81

Predominant soil type: Clay

Do irrigation system head-to-head flow conditions exist on the field? [ ] Yes [X] No

Can fresh water for irrigation purposes be delived to the field year round? [ ] Yes [X] No

Can process wastewater be delivered to the field at agronomic rates and times? [X] Yes [ ] No

Tailwater management method: Returned to top of field

Crops grown and rotation:

Crop Type	Plant Date	Harvest Date	Acres Planted
Wheat, silage, soft dough	Early November	Early May	81
Corn, silage	Early June	Late September	81

FIELD NAME: 24 W

Cropable acres: 16

Predominant soil type: Clay

Do irrigation system head-to-head flow conditions exist on the field? [ ] Yes [X] No

Can fresh water for irrigation purposes be delived to the field year round? [ ] Yes [X] No

Can process wastewater be delivered to the field at agronomic rates and times? [ ] Yes [X] No

Tailwater management method: Micro Jet Irrigation

Crops grown and rotation:

Crop Type	Plant Date	Harvest Date	Acres Planted
Pistachio	Early January	Middle October	16

FIELD NAME: 25

Cropable acres: 91

Predominant soil type: Loam

Do irrigation system head-to-head flow conditions exist on the field? [ ] Yes [X] No

Can fresh water for irrigation purposes be delived to the field year round? [X] Yes [ ] No

Can process wastewater be delivered to the field at agronomic rates and times? [X] Yes [ ] No

Tailwater management method: Returned to top of field for Reuse

Crops grown and rotation:

Crop Type	Plant Date	Harvest Date	Acres Planted
Wheat, silage, soft dough	Early November	Early May	91
Corn, silage	Early June	Late September	91

FIELD NAME: 26

Cropable acres: 74

Predominant soil type: Silty clay loam

Do irrigation system head-to-head flow conditions exist on the field? [ ] Yes [X] No

Can fresh water for irrigation purposes be delived to the field year round? [ ] Yes [X] No

Can process wastewater be delivered to the field at agronomic rates and times? [ ] Yes [X] No

Tailwater management method: Control valves in place to prevent Discharge off field to Miles Creek following manure applications.

Crops grown and rotation:

Crop Type	Plant Date	Harvest Date	Acres Planted
Wheat, silage, soft dough	Early November	Early May	74
Corn, silage	Early June	Late September	74

FIELD NAME: 28

Cropable acres: 57

Predominant soil type: Clay

Do irrigation system head-to-head flow conditions exist on the field? [ ] Yes [X] No

Can fresh water for irrigation purposes be delived to the field year round? [X] Yes [ ] No

Can process wastewater be delivered to the field at agronomic rates and times? [ ] Yes [X] No

Tailwater management method: Micro Jet Irriigation - no tailwater

Crops grown and rotation:

Crop Type	Plant Date	Harvest Date	Acres Planted
Pistachio	Early January	Middle October	57

FIELD NAME: 29

Cropable acres: 130

Predominant soil type: Clay

Do irrigation system head-to-head flow conditions exist on the field? [ ] Yes [X] No

Can fresh water for irrigation purposes be delived to the field year round? [X] Yes [ ] No

Can process wastewater be delivered to the field at agronomic rates and times? [ ] Yes [X] No

Tailwater management method: Micro Jet Irriigation - no tailwater

Crops grown and rotation:

Crop Type	Plant Date	Harvest Date	Acres Planted
Pistachio	Early January	Middle October	130

FIELD NAME: 3

Cropable acres: 33

Predominant soil type: Loam

Do irrigation system head-to-head flow conditions exist on the field? [ ] Yes [X] No

Can fresh water for irrigation purposes be delived to the field year round? [ ] Yes [X] No

Can process wastewater be delivered to the field at agronomic rates and times? [X] Yes [ ] No

Tailwater management method: Returned to tailwater pond for reuse

Crops grown and rotation:

Crop Type	Plant Date	Harvest Date	Acres Planted
Corn, silage	Early April	Early August	33
Sorghum-Sudangrass, forage	Early August	Late October	33

FIELD NAME: 30

Cropable acres: 103

Predominant soil type: Clay

Do irrigation system head-to-head flow conditions exist on the field? [ ] Yes [X] No

Can fresh water for irrigation purposes be delived to the field year round? [X] Yes [ ] No

Can process wastewater be delivered to the field at agronomic rates and times? [ ] Yes [X] No

Tailwater management method: Micro Jet Irriigation - no tailwater

Crops grown and rotation:

Crop Type	Plant Date	Harvest Date	Acres Planted
Pistachio	Early January	Middle October	103

FIELD NAME: 4

Cropable acres: 76

Predominant soil type: Loam

Do irrigation system head-to-head flow conditions exist on the field? [ ] Yes [X] No

Can fresh water for irrigation purposes be delived to the field year round? [ ] Yes [X] No

Can process wastewater be delivered to the field at agronomic rates and times? [X] Yes [ ] No

Tailwater management method: Returned to tailwater pond for reuse

Crops grown and rotation:

Crop Type	Plant Date	Harvest Date	Acres Planted
Corn, silage	Early April	Early August	76
Sorghum-Sudangrass, forage	Early August	Late October	76

FIELD NAME: 5

Cropable acres: 35

Predominant soil type: Silt loam

Do irrigation system head-to-head flow conditions exist on the field? [ ] Yes [X] No

Can fresh water for irrigation purposes be delived to the field year round? [ ] Yes [X] No

Can process wastewater be delivered to the field at agronomic rates and times? [X] Yes [ ] No

Tailwater management method: Returned to tailwater pond for reuse

Crops grown and rotation:

Crop Type	Plant Date	Harvest Date	Acres Planted
Corn, silage	Early April	Early August	35
Sorghum-Sudangrass, forage	Early August	Late October	35

FIELD NAME: 6

Cropable acres: 57

Predominant soil type: Silt loam

Do irrigation system head-to-head flow conditions exist on the field? [ ] Yes [X] No

Can fresh water for irrigation purposes be delived to the field year round? [ ] Yes [X] No

Can process wastewater be delivered to the field at agronomic rates and times? [X] Yes [ ] No

Tailwater management method: Returned to tailwater pond for reuse

Crops grown and rotation:

Crop Type	Plant Date	Harvest Date	Acres Planted
Corn, silage	Early April	Early August	57
Sorghum-Sudangrass, forage	Early August	Late October	57

FIELD NAME: 7

Cropable acres: 13

Predominant soil type: Loam

Do irrigation system head-to-head flow conditions exist on the field? [ ] Yes [X] No

Can fresh water for irrigation purposes be delived to the field year round? [X] Yes [ ] No

Can process wastewater be delivered to the field at agronomic rates and times? [X] Yes [ ] No

Tailwater management method: Returned to top of field

Crops grown and rotation:

Crop Type	Plant Date	Harvest Date	Acres Planted
Wheat, silage, soft dough	Early November	Early May	13
Corn, silage	Early June	Late September	13

C. LAND APPLICATION AREA FIELDS AND PARCELS

Field name	Cropable acres	Total harvests	Parcel number
1	59	2	0053-0080-00450000
10	67	1	0053-0100-00420000
11	21	1	0053-0100-00420000
12	93	2	0053-0100-00430000
13	79	2	0053-0100-00430000
14	74	2	0053-0100-00430000
15	78	2	0053-0100-00430000
16	50	2	0053-0100-00440000
17	28	2	0053-0110-00060000
18	50	2	0053-0150-00330000
2	9	2	0053-0080-00450000
20 N	37	2	0053-0150-00330000
20 S	43	1	0037-0040-00030000 0053-0150-00330000
21	15	2	0053-0150-00330000
22	115	2	0053-0150-00060000
23	27	1	0037-0040-00030000
24 E	81	2	0037-0040-00040000 0053-0150-00320000
24 W	16	1	0037-0040-00040000
25	91	2	0053-0150-00060000
26	74	2	0053-0150-00060000
28	57	1	0053-0100-00470000
29	130	1	0053-0100-00650000
3	33	2	0053-0080-00450000
30	103	1	0053-0100-00650000
4	76	2	0053-0080-00450000
5	35	2	0053-0100-00690000
6	57	2	0053-0100-00690000
7	13	2	0053-0100-00420000
Land application area totals	1,735	51	

NUTRIENT BUDGET

A. NUTRIENT BUDGET FOR CROP: 1 / Corn, silage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
Commercial fertilizer pre-plant before pre-irrigation	1	80.0	0.0	0.0	80.0
Nutrient source: Commercial fertilizer		100%	0%	0%	
Application method: Shank					
Pre-irrigation prior to planting (no fertilizer)	1	0.0	0.0	0.0	0.0
Nutrient source: Water only		0%	0%	0%	
Application method: Surface					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	72.0
	0.0	0.0	0.0	

In season irrigation (no fertilizer)	6	0.0	0.0	0.0	0.1
Nutrient source: Water only		0%	0%	0%	
Application method: Surface					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	64.0
	0.0	0.0	0.0	

In season irrigation (with fertilizer)	3	80.0	15.0	125.0	240.0
Nutrient source: Retention pond (lagoon)		66%	80%	80%	
Application method: Pipeline					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	48.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.1	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	80.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	240.0	45.0	375.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	327.1	45.0	375.0
Potential crop nutrient removal	240.0	45.0	198.0
Nutrient balance	87.1	0.0	177.0
Applied to removal ratio	1.36	1.00	1.89

Fresh water applied: 4.21 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 1 / Sorghum-Sudangrass, forage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (no fertilizer) *Nutrient source:* Water only *Application method:* Surface	3	0.0 0%	0.0 0%	0.0 0%	0.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	64.0
	0.0	0.0	0.0	

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	1	80.0 66%	15.0 80%	125.0 80%	80.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	48.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.0	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	0.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	80.0	15.0	125.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	87.0	15.0	125.0
Potential crop nutrient removal	66.0	10.2	72.0
Nutrient balance	21.0	4.8	53.0
Applied to removal ratio	1.32	1.47	1.74

Fresh water applied: 1.69 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 10 / Other

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (no fertilizer) *Nutrient source:* Water only *Application method:* Micro Jet Sprinkler/Drip	16	0.0 0%	0.0 0%	0.0 0%	22.9

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Well F108	1.4	0.0	0.0	108.0
	1.4	0.0	0.0	

NUTRIENT BUDGET FOR CROP (CONTINUED): 10 / Other

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer) *Nutrient source:* Commercial fertilizer *Application method:* Water Run	1	27.0 100%	30.0 100%	13.0 100%	28.4

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Well F108	1.4	0.0	0.0	108.0
	1.4	0.0	0.0	

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer) *Nutrient source:* Commercial fertilizer *Application method:* Water Run	1	70.0 100%	0.0 100%	56.0 100%	71.4

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Well F108	1.4	0.0	0.0	108.0
	1.4	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	25.8	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	97.0	30.0	69.0
Dry manure	0.0	0.0	0.0
Liquid manure	0.0	0.0	0.0
Other	0.0	0.0	0.0
Atmospheric deposition	14.0		
Nutrients applied	136.8	30.0	69.0
Potential crop nutrient removal	100.8	10.8	90.0
Nutrient balance	36.0	19.2	-21.0
Applied to removal ratio	1.36	2.78	0.77

Fresh water applied: 3.21 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 11 / Other

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (no fertilizer) *Nutrient source:* Water only *Application method:* Micro Jet Sprinkler/Drip	16	0.0 0%	0.0 0%	0.0 0%	24.4

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Well F108	1.5	0.0	0.0	36.0
	1.5	0.0	0.0	

NUTRIENT BUDGET FOR CROP (CONTINUED): 11 / Other

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer)	1	27.0	30.0	13.0	28.5
Nutrient source: Commercial fertilizer		100%	100%	100%	
Application method: Water Run					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Well F108	1.5	0.0	0.0	36.0
	1.5	0.0	0.0	

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer)	1	70.0	0.0	56.0	71.5
Nutrient source: Commercial fertilizer		100%	100%	100%	
Application method: Water Run					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Well F108	1.5	0.0	0.0	36.0
	1.5	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	27.4	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	97.0	30.0	69.0
Dry manure	0.0	0.0	0.0
Liquid manure	0.0	0.0	0.0
Other	0.0	0.0	0.0
Atmospheric deposition	14.0		
Nutrients applied	138.4	30.0	69.0
Potential crop nutrient removal	100.8	10.8	90.0
Nutrient balance	37.6	19.2	-21.0
Applied to removal ratio	1.37	2.78	0.77

Fresh water applied: 3.41 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 12 / Corn, silage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
Commercial fertilizer pre-plant before pre-irrigation	1	80.0	0.0	0.0	80.0
Nutrient source: Commercial fertilizer		100%	0%	0%	
Application method: Shank					

NUTRIENT BUDGET FOR CROP (CONTINUED): 12 / Corn, silage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
Pre-irrigation prior to planting (no fertilizer) *Nutrient source:* Water only *Application method:* Surface	1	0.0 0%	0.0 0%	0.0 0%	0.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	108.0
	0.0	0.0	0.0	

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (no fertilizer) *Nutrient source:* Water only *Application method:* Surface	6	0.0 0%	0.0 0%	0.0 0%	0.1

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	96.0
	0.0	0.0	0.0	

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	3	80.0 66%	15.0 80%	125.0 80%	240.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	72.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.1	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	80.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	240.0	45.0	375.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	327.1	45.0	375.0
Potential crop nutrient removal	240.0	45.0	198.0
Nutrient balance	87.1	0.0	177.0
Applied to removal ratio	1.36	1.00	1.89

Fresh water applied: 4.05 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 12 / Sorghum-Sudangrass, forage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)

NUTRIENT BUDGET FOR CROP (CONTINUED): 12 / Sorghum-Sudangrass, forage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (no fertilizer) *Nutrient source:* Water only *Application method:* Surface	3	0.0 0%	0.0 0%	0.0 0%	0.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	96.0
	0.0	0.0	0.0	

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	1	80.0 66%	15.0 80%	125.0 80%	80.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	72.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.0	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	0.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	80.0	15.0	125.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	87.0	15.0	125.0
Potential crop nutrient removal	66.0	10.2	72.0
Nutrient balance	21.0	4.8	53.0
Applied to removal ratio	1.32	1.47	1.74

Fresh water applied: 1.62 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 13 / Wheat, silage, soft dough

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	2	75.0 66%	8.0 66%	60.0 66%	150.0

NUTRIENT BUDGET FOR CROP (CONTINUED): 13 / Wheat, silage, soft dough

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	1	100.0 66%	34.0 66%	160.0 66%	100.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	96.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.0	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	0.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	250.0	50.0	280.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	257.0	50.0	280.0
Potential crop nutrient removal	187.0	28.9	141.1
Nutrient balance	70.0	21.1	138.9
Applied to removal ratio	1.37	1.73	1.98

Fresh water applied: 0.50 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 13 / Corn, silage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
Commercial fertilizer pre-plant before pre-irrigation *Nutrient source:* Commercial fertilizer *Application method:* Shank	1	80.0 100%	0.0 0%	0.0 0%	80.0
Pre-irrigation prior to planting (no fertilizer) *Nutrient source:* Water only *Application method:* Surface	1	0.0 0%	0.0 0%	0.0 0%	0.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	96.0
	0.0	0.0	0.0	

NUTRIENT BUDGET FOR CROP (CONTINUED): 13 / Corn, silage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (no fertilizer)	6	0.0	0.0	0.0	0.1
Nutrient source: Water only		0%	0%	0%	
Application method: Surface					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	72.0
	0.0	0.0	0.0	

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer)	3	80.0	15.0	125.0	240.0
Nutrient source: Retention pond (lagoon)		66%	80%	80%	
Application method: Pipeline					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	60.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.1	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	80.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	240.0	45.0	375.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	327.1	45.0	375.0
Potential crop nutrient removal	240.0	45.0	198.0
Nutrient balance	87.1	0.0	177.0
Applied to removal ratio	1.36	1.00	1.89

Fresh water applied: 3.71 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 14 / Wheat, silage, soft dough

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer)	2	75.0	8.0	60.0	150.0
Nutrient source: Retention pond (lagoon)		66%	66%	66%	
Application method: Pipeline					

NUTRIENT BUDGET FOR CROP (CONTINUED): 14 / Wheat, silage, soft dough

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	1	100.0 66%	34.0 66%	160.0 66%	100.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	96.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.0	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	0.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	250.0	50.0	280.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	257.0	50.0	280.0
Potential crop nutrient removal	187.0	28.9	141.1
Nutrient balance	70.0	21.1	138.9
Applied to removal ratio	1.37	1.73	1.98

Fresh water applied: 0.54 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 14 / Corn, silage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
Commercial fertilizer pre-plant before pre-irrigation *Nutrient source:* Commercial fertilizer *Application method:* Shank	1	80.0 100%	0.0 0%	0.0 0%	80.0
Pre-irrigation prior to planting (no fertilizer) *Nutrient source:* Water only *Application method:* Surface	1	0.0 0%	0.0 0%	0.0 0%	0.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	96.0
	0.0	0.0	0.0	

NUTRIENT BUDGET FOR CROP (CONTINUED): 14 / Corn, silage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (no fertilizer)	6	0.0	0.0	0.0	0.1
Nutrient source: Water only		0%	0%	0%	
Application method: Surface					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	72.0
	0.0	0.0	0.0	

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer)	3	80.0	15.0	125.0	240.0
Nutrient source: Retention pond (lagoon)		66%	80%	80%	
Application method: Pipeline					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	60.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.1	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	80.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	240.0	45.0	375.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	327.1	45.0	375.0
Potential crop nutrient removal	240.0	45.0	198.0
Nutrient balance	87.1	0.0	177.0
Applied to removal ratio	1.36	1.00	1.89

Fresh water applied: 3.96 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 15 / Wheat, silage, soft dough

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer)	2	75.0	8.0	60.0	150.0
Nutrient source: Retention pond (lagoon)		66%	66%	66%	
Application method: Pipeline					

NUTRIENT BUDGET FOR CROP (CONTINUED): 15 / Wheat, silage, soft dough

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	1	100.0 66%	34.0 66%	160.0 66%	100.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	96.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.0	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	0.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	250.0	50.0	280.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	257.0	50.0	280.0
Potential crop nutrient removal	187.0	28.9	141.1
Nutrient balance	70.0	21.1	138.9
Applied to removal ratio	1.37	1.73	1.98

Fresh water applied: 0.51 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 15 / Corn, silage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
Commercial fertilizer pre-plant before pre-irrigation *Nutrient source:* Commercial fertilizer *Application method:* Shank	1	80.0 100%	0.0 0%	0.0 0%	80.0
Pre-irrigation prior to planting (no fertilizer) *Nutrient source:* Water only *Application method:* Surface	1	0.0 0%	0.0 0%	0.0 0%	0.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	96.0
	0.0	0.0	0.0	

NUTRIENT BUDGET FOR CROP (CONTINUED): 15 / Corn, silage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (no fertilizer)	6	0.0	0.0	0.0	0.1
Nutrient source: Water only		0%	0%	0%	
Application method: Surface					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	72.0
	0.0	0.0	0.0	

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer)	3	80.0	15.0	125.0	240.0
Nutrient source: Retention pond (lagoon)		66%	80%	80%	
Application method: Pipeline					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	60.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.1	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	80.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	240.0	45.0	375.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	327.1	45.0	375.0
Potential crop nutrient removal	240.0	45.0	198.0
Nutrient balance	87.1	0.0	177.0
Applied to removal ratio	1.36	1.00	1.89

Fresh water applied: 3.76 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 16 / Wheat, silage, soft dough

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer)	2	75.0	8.0	60.0	150.0
Nutrient source: Retention pond (lagoon)		66%	66%	66%	
Application method: Pipeline					

NUTRIENT BUDGET FOR CROP (CONTINUED): 16 / Wheat, silage, soft dough

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	1	100.0 66%	34.0 66%	160.0 66%	100.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	60.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.0	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	0.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	250.0	50.0	280.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	257.0	50.0	280.0
Potential crop nutrient removal	187.0	28.9	141.1
Nutrient balance	70.0	21.1	138.9
Applied to removal ratio	1.37	1.73	1.98

Fresh water applied: 0.50 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 16 / Corn, silage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
Commercial fertilizer pre-plant before pre-irrigation *Nutrient source:* Commercial fertilizer *Application method:* Shank	1	80.0 100%	0.0 0%	0.0 0%	80.0
Pre-irrigation prior to planting (no fertilizer) *Nutrient source:* Water only *Application method:* Surface	1	0.0 0%	0.0 0%	0.0 0%	0.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	60.0
	0.0	0.0	0.0	

NUTRIENT BUDGET FOR CROP (CONTINUED): 16 / Corn, silage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (no fertilizer) *Nutrient source:* Water only *Application method:* Surface	6	0.0 0%	0.0 0%	0.0 0%	0.1

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	42.0
	0.0	0.0	0.0	

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	3	80.0 66%	15.0 80%	125.0 80%	240.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	36.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.1	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	80.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	240.0	45.0	375.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	327.1	45.0	375.0
Potential crop nutrient removal	240.0	45.0	198.0
Nutrient balance	87.1	0.0	177.0
Applied to removal ratio	1.36	1.00	1.89

Fresh water applied: 3.48 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 17 / Wheat, silage, soft dough

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	2	75.0 66%	8.0 66%	60.0 66%	150.0

NUTRIENT BUDGET FOR CROP (CONTINUED): 17 / Wheat, silage, soft dough

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	1	100.0 66%	34.0 66%	160.0 66%	100.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Well F116	0.0	0.0	0.0	36.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.0	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	0.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	250.0	50.0	280.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	257.0	50.0	280.0
Potential crop nutrient removal	187.0	28.9	141.1
Nutrient balance	70.0	21.1	138.9
Applied to removal ratio	1.37	1.73	1.98

Fresh water applied: 0.59 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 17 / Corn, silage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
Commercial fertilizer pre-plant before pre-irrigation *Nutrient source:* Commercial fertilizer *Application method:* Shank	1	80.0 100%	0.0 0%	0.0 0%	80.0
Pre-irrigation prior to planting (no fertilizer) *Nutrient source:* Water only *Application method:* Surface	1	0.0 0%	0.0 0%	0.0 0%	0.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Well F116	0.0	0.0	0.0	32.0
	0.0	0.0	0.0	

NUTRIENT BUDGET FOR CROP (CONTINUED): 17 / Corn, silage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (no fertilizer)	6	0.0	0.0	0.0	0.1
Nutrient source: Water only		0%	0%	0%	
Application method: Surface					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Well F116	0.0	0.0	0.0	24.0
	0.0	0.0	0.0	

In season irrigation (with fertilizer)	3	80.0	15.0	125.0	240.0
Nutrient source: Retention pond (lagoon)		66%	80%	80%	
Application method: Pipeline					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Well F116	0.0	0.0	0.0	20.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.1	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	80.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	240.0	45.0	375.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	327.1	45.0	375.0
Potential crop nutrient removal	240.0	45.0	198.0
Nutrient balance	87.1	0.0	177.0
Applied to removal ratio	1.36	1.00	1.89

Fresh water applied: 3.88 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 18 / Wheat, silage, soft dough

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer)	2	75.0	8.0	60.0	150.0
Nutrient source: Retention pond (lagoon)		66%	66%	66%	
Application method: Pipeline					

NUTRIENT BUDGET FOR CROP (CONTINUED): 18 / Wheat, silage, soft dough

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	1	100.0 66%	34.0 66%	160.0 66%	100.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	60.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.0	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	0.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	250.0	50.0	280.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	257.0	50.0	280.0
Potential crop nutrient removal	187.0	28.9	141.1
Nutrient balance	70.0	21.1	138.9
Applied to removal ratio	1.37	1.73	1.98

Fresh water applied: 0.51 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 18 / Corn, silage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
Commercial fertilizer pre-plant before pre-irrigation *Nutrient source:* Commercial fertilizer *Application method:* Shank	1	80.0 100%	0.0 0%	0.0 0%	80.0
Pre-irrigation prior to planting (no fertilizer) *Nutrient source:* Water only *Application method:* Surface	1	0.0 0%	0.0 0%	0.0 0%	0.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	60.0
	0.0	0.0	0.0	

NUTRIENT BUDGET FOR CROP (CONTINUED): 18 / Corn, silage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (no fertilizer)	6	0.0	0.0	0.0	0.1
Nutrient source: Water only		0%	0%	0%	
Application method: Surface					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	42.0
	0.0	0.0	0.0	

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer)	3	80.0	15.0	125.0	240.0
Nutrient source: Retention pond (lagoon)		66%	80%	80%	
Application method: Pipeline					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	36.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.1	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	80.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	240.0	45.0	375.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	327.1	45.0	375.0
Potential crop nutrient removal	240.0	45.0	198.0
Nutrient balance	87.1	0.0	177.0
Applied to removal ratio	1.36	1.00	1.89

Fresh water applied: 3.55 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 2 / Corn, silage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
Commercial fertilizer pre-plant before pre-irrigation	1	80.0	0.0	0.0	80.0
Nutrient source: Commercial fertilizer		100%	0%	0%	
Application method: Shank					

NUTRIENT BUDGET FOR CROP (CONTINUED): 2 / Corn, silage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
Pre-irrigation prior to planting (no fertilizer) *Nutrient source:* Water only *Application method:* Surface	1	0.0 0%	0.0 0%	0.0 0%	0.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	12.0
	0.0	0.0	0.0	

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (no fertilizer) *Nutrient source:* Water only *Application method:* Surface	6	0.0 0%	0.0 0%	0.0 0%	0.1

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	9.0
	0.0	0.0	0.0	

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	3	80.0 66%	15.0 80%	125.0 80%	240.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	6.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.1	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	80.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	240.0	45.0	375.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	327.1	45.0	375.0
Potential crop nutrient removal	240.0	45.0	198.0
Nutrient balance	87.1	0.0	177.0
Applied to removal ratio	1.36	1.00	1.89

Fresh water applied: 3.87 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 2 / Sorghum-Sudangrass, forage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)

NUTRIENT BUDGET FOR CROP (CONTINUED): 2 / Sorghum-Sudangrass, forage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (no fertilizer) *Nutrient source:* Water only *Application method:* Surface	3	0.0 0%	0.0 0%	0.0 0%	0.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	12.0
	0.0	0.0	0.0	

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	1	80.0 66%	15.0 80%	125.0 80%	80.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	8.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.1	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	0.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	80.0	15.0	125.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	87.1	15.0	125.0
Potential crop nutrient removal	66.0	10.2	72.0
Nutrient balance	21.1	4.8	53.0
Applied to removal ratio	1.32	1.47	1.74

Fresh water applied: 2.03 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 20 N / Wheat, silage, soft dough

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	2	75.0 66%	8.0 66%	60.0 66%	150.0

NUTRIENT BUDGET FOR CROP (CONTINUED): 20 N / Wheat, silage, soft dough

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	1	100.0 66%	34.0 66%	160.0 66%	100.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	48.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.0	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	0.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	250.0	50.0	280.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	257.0	50.0	280.0
Potential crop nutrient removal	187.0	28.9	141.1
Nutrient balance	70.0	21.1	138.9
Applied to removal ratio	1.37	1.73	1.98

Fresh water applied: 0.54 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 20 N / Corn, silage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
Commercial fertilizer pre-plant before pre-irrigation *Nutrient source:* Commercial fertilizer *Application method:* Shank	1	80.0 100%	0.0 0%	0.0 0%	80.0
Pre-irrigation prior to planting (no fertilizer) *Nutrient source:* Water only *Application method:* Surface	1	0.0 0%	0.0 0%	0.0 0%	0.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	48.0
	0.0	0.0	0.0	

NUTRIENT BUDGET FOR CROP (CONTINUED): 20 N / Corn, silage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (no fertilizer) *Nutrient source:* Water only *Application method:* Surface	6	0.0 0%	0.0 0%	0.0 0%	0.1

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	36.0
	0.0	0.0	0.0	

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	3	80.0 66%	15.0 80%	125.0 80%	240.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	28.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.1	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	80.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	240.0	45.0	375.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	327.1	45.0	375.0
Potential crop nutrient removal	240.0	45.0	198.0
Nutrient balance	87.1	0.0	177.0
Applied to removal ratio	1.36	1.00	1.89

Fresh water applied: 3.90 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 20 S / Other

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (no fertilizer) *Nutrient source:* Water only *Application method:* Micro Jet Sprinkler/Drip	16	0.0 0%	0.0 0%	0.0 0%	0.1

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District Trees	0.0	0.0	0.0	48.0
	0.0	0.0	0.0	

NUTRIENT BUDGET FOR CROP (CONTINUED): 20 S / Other

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer)	1	27.0	30.0	13.0	27.0
Nutrient source: Commercial fertilizer		100%	100%	100%	
Application method: Water Run					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District Trees	0.0	0.0	0.0	48.0
	0.0	0.0	0.0	

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer)	1	70.0	0.0	56.0	70.0
Nutrient source: Commercial fertilizer		100%	100%	100%	
Application method: Water Run					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District Trees	0.0	0.0	0.0	48.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.1	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	97.0	30.0	69.0
Dry manure	0.0	0.0	0.0
Liquid manure	0.0	0.0	0.0
Other	0.0	0.0	0.0
Atmospheric deposition	14.0		
Nutrients applied	111.1	30.0	69.0
Potential crop nutrient removal	100.8	10.8	90.0
Nutrient balance	10.3	19.2	-21.0
Applied to removal ratio	1.10	2.78	0.77

Fresh water applied: 3.33 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 21 / Wheat, silage, soft dough

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer)	2	75.0	8.0	60.0	150.0
Nutrient source: Retention pond (lagoon)		66%	66%	66%	
Application method: Pipeline					

NUTRIENT BUDGET FOR CROP (CONTINUED): 21 / Wheat, silage, soft dough

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	1	100.0 66%	34.0 66%	160.0 66%	100.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	18.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.0	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	0.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	250.0	50.0	280.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	257.0	50.0	280.0
Potential crop nutrient removal	187.0	28.9	141.1
Nutrient balance	70.0	21.1	138.9
Applied to removal ratio	1.37	1.73	1.98

Fresh water applied: 0.50 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 21 / Corn, silage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
Commercial fertilizer pre-plant before pre-irrigation *Nutrient source:* Commercial fertilizer *Application method:* Shank	1	80.0 100%	0.0 0%	0.0 0%	80.0
Pre-irrigation prior to planting (no fertilizer) *Nutrient source:* Water only *Application method:* Surface	1	0.0 0%	0.0 0%	0.0 0%	0.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	18.0
	0.0	0.0	0.0	

NUTRIENT BUDGET FOR CROP (CONTINUED): 21 / Corn, silage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (no fertilizer) *Nutrient source:* Water only *Application method:* Surface	6	0.0 0%	0.0 0%	0.0 0%	0.1

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	16.0
	0.0	0.0	0.0	

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	3	80.0 66%	15.0 80%	125.0 80%	240.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	12.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.1	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	80.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	240.0	45.0	375.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	327.1	45.0	375.0
Potential crop nutrient removal	240.0	45.0	198.0
Nutrient balance	87.1	0.0	177.0
Applied to removal ratio	1.36	1.00	1.89

Fresh water applied: 4.14 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 22 / Wheat, silage, soft dough

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	2	75.0 66%	8.0 66%	60.0 66%	150.0

NUTRIENT BUDGET FOR CROP (CONTINUED): 22 / Wheat, silage, soft dough

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	1	100.0 66%	34.0 66%	160.0 66%	100.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	120.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.0	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	0.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	250.0	50.0	280.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	257.0	50.0	280.0
Potential crop nutrient removal	187.0	28.9	141.1
Nutrient balance	70.0	21.1	138.9
Applied to removal ratio	1.37	1.73	1.98

Fresh water applied: 0.43 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 22 / Corn, silage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
Commercial fertilizer pre-plant before pre-irrigation *Nutrient source:* Commercial fertilizer *Application method:* Shank	1	80.0 100%	0.0 0%	0.0 0%	80.0
Pre-irrigation prior to planting (no fertilizer) *Nutrient source:* Water only *Application method:* Surface	1	0.0 0%	0.0 0%	0.0 0%	0.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	120.0
	0.0	0.0	0.0	

NUTRIENT BUDGET FOR CROP (CONTINUED): 22 / Corn, silage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (no fertilizer) *Nutrient source:* Water only *Application method:* Surface	6	0.0 0%	0.0 0%	0.0 0%	0.1

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	96.0
	0.0	0.0	0.0	

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	3	80.0 66%	15.0 80%	125.0 80%	240.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	84.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.1	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	80.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	240.0	45.0	375.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	327.1	45.0	375.0
Potential crop nutrient removal	240.0	45.0	198.0
Nutrient balance	87.1	0.0	177.0
Applied to removal ratio	1.36	1.00	1.89

Fresh water applied: 3.42 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 23 / Other

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (no fertilizer) *Nutrient source:* Water only *Application method:* Micro Jet Sprinkler/Drip	16	0.0 0%	0.0 0%	0.0 0%	0.1

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District Trees	0.0	0.0	0.0	32.0
	0.0	0.0	0.0	

NUTRIENT BUDGET FOR CROP (CONTINUED): 23 / Other

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer)	1	27.0	30.0	13.0	27.0
Nutrient source: Commercial fertilizer		100%	100%	100%	
Application method: Water Run					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District Trees	0.0	0.0	0.0	32.0
	0.0	0.0	0.0	

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer)	1	70.0	0.0	56.0	70.0
Nutrient source: Commercial fertilizer		100%	100%	100%	
Application method: Water Run					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District Trees	0.0	0.0	0.0	32.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.1	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	97.0	30.0	69.0
Dry manure	0.0	0.0	0.0
Liquid manure	0.0	0.0	0.0
Other	0.0	0.0	0.0
Atmospheric deposition	14.0		
Nutrients applied	111.1	30.0	69.0
Potential crop nutrient removal	100.8	10.8	90.0
Nutrient balance	10.3	19.2	-21.0
Applied to removal ratio	1.10	2.78	0.77

Fresh water applied: 3.54 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 24 E / Wheat, silage, soft dough

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer)	2	75.0	8.0	60.0	150.0
Nutrient source: Retention pond (lagoon)		66%	66%	66%	
Application method: Pipeline					

NUTRIENT BUDGET FOR CROP (CONTINUED): 24 E / Wheat, silage, soft dough

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	1	100.0 66%	34.0 66%	160.0 66%	100.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	96.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.0	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	0.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	250.0	50.0	280.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	257.0	50.0	280.0
Potential crop nutrient removal	187.0	28.9	141.1
Nutrient balance	70.0	21.1	138.9
Applied to removal ratio	1.37	1.73	1.98

Fresh water applied: 0.49 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 24 E / Corn, silage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
Commercial fertilizer pre-plant before pre-irrigation *Nutrient source:* Commercial fertilizer *Application method:* Shank	1	80.0 100%	0.0 0%	0.0 0%	80.0
Pre-irrigation prior to planting (no fertilizer) *Nutrient source:* Water only *Application method:* Surface	1	0.0 0%	0.0 0%	0.0 0%	0.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	96.0
	0.0	0.0	0.0	

NUTRIENT BUDGET FOR CROP (CONTINUED): 24 E / Corn, silage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (no fertilizer) *Nutrient source:* Water only *Application method:* Surface	6	0.0 0%	0.0 0%	0.0 0%	0.1

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	72.0
	0.0	0.0	0.0	

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	3	80.0 66%	15.0 80%	125.0 80%	240.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	60.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.1	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	80.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	240.0	45.0	375.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	327.1	45.0	375.0
Potential crop nutrient removal	240.0	45.0	198.0
Nutrient balance	87.1	0.0	177.0
Applied to removal ratio	1.36	1.00	1.89

Fresh water applied: 3.62 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 24 W / Other

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (no fertilizer) *Nutrient source:* Water only *Application method:* Micro Jet Sprinkler/Drip	16	0.0 0%	0.0 0%	0.0 0%	0.1

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District Trees	0.0	0.0	0.0	18.0
	0.0	0.0	0.0	

NUTRIENT BUDGET FOR CROP (CONTINUED): 24 W / Other

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer)	1	27.0	30.0	13.0	27.0
Nutrient source: Commercial fertilizer		100%	100%	100%	
Application method: Water Run					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District Trees	0.0	0.0	0.0	18.0
	0.0	0.0	0.0	

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer)	1	70.0	0.0	56.0	70.0
Nutrient source: Commercial fertilizer		100%	100%	100%	
Application method: Water Run					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District Trees	0.0	0.0	0.0	18.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.1	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	97.0	30.0	69.0
Dry manure	0.0	0.0	0.0
Liquid manure	0.0	0.0	0.0
Other	0.0	0.0	0.0
Atmospheric deposition	14.0		
Nutrients applied	111.1	30.0	69.0
Potential crop nutrient removal	100.8	10.8	90.0
Nutrient balance	10.3	19.2	-21.0
Applied to removal ratio	1.10	2.78	0.77

Fresh water applied: 3.36 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 25 / Wheat, silage, soft dough

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
Non-irrigation liquid nutrient application	1	200.0	60.0	75.0	200.0
Nutrient source: Retention pond (lagoon)		66%	66%	66%	
Application method: Towed tank					
In season fertilizer sidedress 1	1	46.0	0.0	0.0	46.0
Nutrient source: Commercial fertilizer		100%	0%	0%	
Application method: Broadcast					

NUTRIENT BUDGET FOR CROP (CONTINUED): 25 / Wheat, silage, soft dough

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (no fertilizer) *Nutrient source:* Water only *Application method:* Surface	1	0.0 0%	0.0 0%	0.0 0%	0.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	120.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.0	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	46.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	200.0	60.0	75.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	253.0	60.0	75.0
Potential crop nutrient removal	187.0	28.9	141.1
Nutrient balance	66.0	31.1	-66.1
Applied to removal ratio	1.35	2.08	0.53

Fresh water applied: 0.55 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 25 / Corn, silage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
Dry manure *Nutrient source:* From dairy *Application method:* Broadcast/incorporate	1	110.0 50%	26.0 50%	62.0 50%	110.0
In season fertilizer sidedress 1 *Nutrient source:* Commercial fertilizer *Application method:* Sidedress	1	200.0 100%	0.0 100%	0.0 100%	200.0
Pre-irrigation prior to planting (no fertilizer) *Nutrient source:* Water only *Application method:* Surface	1	0.0 0%	0.0 0%	0.0 0%	0.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	96.0
	0.0	0.0	0.0	

NUTRIENT BUDGET FOR CROP (CONTINUED): 25 / Corn, silage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (no fertilizer) *Nutrient source:* Water only *Application method:* Surface	9	0.0 0%	0.0 0%	0.0 0%	0.1

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	84.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.1	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	200.0	0.0	0.0
Dry manure	110.0	26.0	62.0
Liquid manure	0.0	0.0	0.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	317.1	26.0	62.0
Potential crop nutrient removal	240.0	45.0	198.0
Nutrient balance	77.1	-19.0	-136.0
Applied to removal ratio	1.32	0.58	0.31

Fresh water applied: 3.88 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 26 / Wheat, silage, soft dough

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
Non-irrigation liquid nutrient application *Nutrient source:* Retention pond (lagoon) *Application method:* Towed tank	1	200.0 66%	60.0 66%	75.0 66%	200.0
In season fertilizer sidedress 1 *Nutrient source:* Commercial fertilizer *Application method:* Broadcast	1	46.0 100%	0.0 0%	0.0 0%	46.0
In season irrigation (no fertilizer) *Nutrient source:* Water only *Application method:* Surface	1	0.0 0%	0.0 0%	0.0 0%	0.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	96.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.0	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	46.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	200.0	60.0	75.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	253.0	60.0	75.0
Potential crop nutrient removal	187.0	28.9	141.1
Nutrient balance	66.0	31.1	-66.1
Applied to removal ratio	1.35	2.08	0.53

Fresh water applied: 0.54 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 26 / Corn, silage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
Dry manure	1	110.0	26.0	62.0	110.0
Nutrient source: From dairy		50%	50%	50%	
Application method: Broadcast/incorporate					
In season fertilizer sidedress 1	1	200.0	0.0	0.0	200.0
Nutrient source: Commercial fertilizer		100%	100%	100%	
Application method: Sidedress					
Pre-irrigation prior to planting (no fertilizer)	1	0.0	0.0	0.0	0.0
Nutrient source: Water only		0%	0%	0%	
Application method: Surface					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	84.0
	0.0	0.0	0.0	

In season irrigation (no fertilizer)	9	0.0	0.0	0.0	0.1
Nutrient source: Water only		0%	0%	0%	
Application method: Surface					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	72.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.1	0.0	0.0

Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	200.0	0.0	0.0
Dry manure	110.0	26.0	62.0
Liquid manure	0.0	0.0	0.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	317.1	26.0	62.0
Potential crop nutrient removal	240.0	45.0	198.0
Nutrient balance	77.1	-19.0	-136.0
Applied to removal ratio	1.32	0.58	0.31

Fresh water applied: 4.10 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 28 / Other

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (no fertilizer) *Nutrient source:* Water only *Application method:* Micro Jet Sprinkler/Drip	16	0.0 0%	0.0 0%	0.0 0%	0.1

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District Trees	0.0	0.0	0.0	60.0
	0.0	0.0	0.0	

In season irrigation (with fertilizer) *Nutrient source:* Commercial fertilizer *Application method:* Water Run	1	27.0 100%	30.0 100%	13.0 100%	27.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District Trees	0.0	0.0	0.0	60.0
	0.0	0.0	0.0	

In season irrigation (with fertilizer) *Nutrient source:* Commercial fertilizer *Application method:* Water Run	1	70.0 100%	0.0 100%	56.0 100%	70.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District Trees	0.0	0.0	0.0	60.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.1	0.0	0.0

Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	97.0	30.0	69.0
Dry manure	0.0	0.0	0.0
Liquid manure	0.0	0.0	0.0
Other	0.0	0.0	0.0
Atmospheric deposition	14.0		
Nutrients applied	111.1	30.0	69.0
Potential crop nutrient removal	100.8	10.8	90.0
Nutrient balance	10.3	19.2	-21.0
Applied to removal ratio	1.10	2.78	0.77

Fresh water applied: 3.14 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 29 / Other

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (no fertilizer) *Nutrient source:* Water only *Application method:* Micro Jet Sprinkler/Drip	16	0.0 0%	0.0 0%	0.0 0%	0.1

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District Trees	0.0	0.0	0.0	144.0
	0.0	0.0	0.0	

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer) *Nutrient source:* Commercial fertilizer *Application method:* Water Run	1	27.0 100%	30.0 100%	13.0 100%	27.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District Trees	0.0	0.0	0.0	144.0
	0.0	0.0	0.0	

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer) *Nutrient source:* Commercial fertilizer *Application method:* Water Run	1	70.0 100%	0.0 100%	56.0 100%	70.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District Trees	0.0	0.0	0.0	144.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.1	0.0	0.0

Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	97.0	30.0	69.0
Dry manure	0.0	0.0	0.0
Liquid manure	0.0	0.0	0.0
Other	0.0	0.0	0.0
Atmospheric deposition	14.0		
Nutrients applied	111.1	30.0	69.0
Potential crop nutrient removal	100.8	10.8	90.0
Nutrient balance	10.3	19.2	-21.0
Applied to removal ratio	1.10	2.78	0.77

Fresh water applied: 3.30 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 3 / Corn, silage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
Commercial fertilizer pre-plant before pre-irrigation *Nutrient source:* Commercial fertilizer *Application method:* Shank	1	80.0 100%	0.0 0%	0.0 0%	80.0
Pre-irrigation prior to planting (no fertilizer) *Nutrient source:* Water only *Application method:* Surface	1	0.0 0%	0.0 0%	0.0 0%	0.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	48.0
	0.0	0.0	0.0	

In season irrigation (no fertilizer) *Nutrient source:* Water only *Application method:* Surface	6	0.0 0%	0.0 0%	0.0 0%	0.1

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	32.0
	0.0	0.0	0.0	

In season irrigation (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	3	80.0 66%	15.0 80%	125.0 80%	240.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	24.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.1	0.0	0.0

Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	80.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	240.0	45.0	375.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	327.1	45.0	375.0
Potential crop nutrient removal	240.0	45.0	198.0
Nutrient balance	87.1	0.0	177.0
Applied to removal ratio	1.36	1.00	1.89

Fresh water applied: 3.92 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 3 / Sorghum-Sudangrass, forage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (no fertilizer) *Nutrient source:* Water only *Application method:* Surface	3	0.0 0%	0.0 0%	0.0 0%	0.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	42.0
	0.0	0.0	0.0	

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	1	80.0 66%	15.0 80%	125.0 80%	80.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	32.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.1	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	0.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	80.0	15.0	125.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	87.1	15.0	125.0
Potential crop nutrient removal	66.0	10.2	72.0

Nutrient balance	21.1	4.8	53.0
Applied to removal ratio	1.32	1.47	1.74

Fresh water applied: 1.98 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 30 / Other

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (no fertilizer) *Nutrient source:* Water only *Application method:* Micro Jet Sprinkler/Drip	16	0.0 0%	0.0 0%	0.0 0%	0.1

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District Trees	0.0	0.0	0.0	120.0
	0.0	0.0	0.0	

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer) *Nutrient source:* Commercial fertilizer *Application method:* Water Run	1	27.0 100%	30.0 100%	13.0 100%	27.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District Trees	0.0	0.0	0.0	120.0
	0.0	0.0	0.0	

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer) *Nutrient source:* Commercial fertilizer *Application method:* Water Run	1	70.0 100%	0.0 100%	56.0 100%	70.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District Trees	0.0	0.0	0.0	120.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.1	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	97.0	30.0	69.0
Dry manure	0.0	0.0	0.0
Liquid manure	0.0	0.0	0.0
Other	0.0	0.0	0.0
Atmospheric deposition	14.0		
Nutrients applied	111.1	30.0	69.0
Potential crop nutrient removal	100.8	10.8	90.0
Nutrient balance	10.3	19.2	-21.0
Applied to removal ratio	1.10	2.78	0.77

Fresh water applied: 3.48 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 4 / Corn, silage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
Commercial fertilizer pre-plant before pre-irrigation	1	80.0	0.0	0.0	80.0
Nutrient source: Commercial fertilizer		100%	0%	0%	
Application method: Shank					
Pre-irrigation prior to planting (no fertilizer)	1	0.0	0.0	0.0	0.0
Nutrient source: Water only		0%	0%	0%	
Application method: Surface					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	96.0
	0.0	0.0	0.0	

In season irrigation (no fertilizer)	6	0.0	0.0	0.0	0.1
Nutrient source: Water only		0%	0%	0%	
Application method: Surface					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	72.0
	0.0	0.0	0.0	

In season irrigation (with fertilizer)	3	80.0	15.0	125.0	240.0
Nutrient source: Retention pond (lagoon)		66%	80%	80%	
Application method: Pipeline					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	60.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.1	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	80.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	240.0	45.0	375.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	327.1	45.0	375.0
Potential crop nutrient removal	240.0	45.0	198.0
Nutrient balance	87.1	0.0	177.0
Applied to removal ratio	1.36	1.00	1.89

Fresh water applied: 3.86 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 4 / Sorghum-Sudangrass, forage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (no fertilizer)	3	0.0	0.0	0.0	0.0
Nutrient source: Water only		0%	0%	0%	
Application method: Surface					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	84.0
	0.0	0.0	0.0	

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer)	1	80.0	15.0	125.0	80.0
Nutrient source: Retention pond (lagoon)		66%	80%	80%	
Application method: Pipeline					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	72.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.0	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	0.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	80.0	15.0	125.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	87.0	15.0	125.0
Potential crop nutrient removal	66.0	10.2	72.0
Nutrient balance	21.0	4.8	53.0
Applied to removal ratio	1.32	1.47	1.74

Fresh water applied: 1.77 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 5 / Corn, silage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
Commercial fertilizer pre-plant before pre-irrigation	1	80.0	0.0	0.0	80.0
Nutrient source: Commercial fertilizer		100%	0%	0%	
Application method: Shank					

NUTRIENT BUDGET FOR CROP (CONTINUED): 5 / Corn, silage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
Pre-irrigation prior to planting (no fertilizer) *Nutrient source:* Water only *Application method:* Surface	1	0.0 0%	0.0 0%	0.0 0%	0.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	48.0
	0.0	0.0	0.0	

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (no fertilizer) *Nutrient source:* Water only *Application method:* Surface	6	0.0 0%	0.0 0%	0.0 0%	0.1

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	36.0
	0.0	0.0	0.0	

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	3	80.0 66%	15.0 80%	125.0 80%	240.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	28.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.1	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	80.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	240.0	45.0	375.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	327.1	45.0	375.0
Potential crop nutrient removal	240.0	45.0	198.0
Nutrient balance	87.1	0.0	177.0
Applied to removal ratio	1.36	1.00	1.89

Fresh water applied: 4.12 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 5 / Sorghum-Sudangrass, forage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)

NUTRIENT BUDGET FOR CROP (CONTINUED): 5 / Sorghum-Sudangrass, forage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (no fertilizer) *Nutrient source:* Water only *Application method:* Surface	3	0.0 0%	0.0 0%	0.0 0%	0.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	42.0
	0.0	0.0	0.0	

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	1	80.0 66%	15.0 80%	125.0 80%	80.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	32.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.1	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	0.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	80.0	15.0	125.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	87.1	15.0	125.0
Potential crop nutrient removal	66.0	10.2	72.0
Nutrient balance	21.1	4.8	53.0
Applied to removal ratio	1.32	1.47	1.74

Fresh water applied: 1.87 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 6 / Corn, silage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
Commercial fertilizer pre-plant before pre-irrigation *Nutrient source:* Commercial fertilizer *Application method:* Shank	1	80.0 100%	0.0 0%	0.0 0%	80.0

NUTRIENT BUDGET FOR CROP (CONTINUED): 6 / Corn, silage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
Pre-irrigation prior to planting (no fertilizer) *Nutrient source:* Water only *Application method:* Surface	1	0.0 0%	0.0 0%	0.0 0%	0.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	72.0
	0.0	0.0	0.0	

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (no fertilizer) *Nutrient source:* Water only *Application method:* Surface	6	0.0 0%	0.0 0%	0.0 0%	0.1

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	60.0
	0.0	0.0	0.0	

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	3	80.0 66%	15.0 80%	125.0 80%	240.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	48.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.1	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	80.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	240.0	45.0	375.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	327.1	45.0	375.0
Potential crop nutrient removal	240.0	45.0	198.0
Nutrient balance	87.1	0.0	177.0
Applied to removal ratio	1.36	1.00	1.89

Fresh water applied: 4.19 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 6 / Sorghum-Sudangrass, forage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)

NUTRIENT BUDGET FOR CROP (CONTINUED): 6 / Sorghum-Sudangrass, forage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (no fertilizer) *Nutrient source:* Water only *Application method:* Surface	3	0.0 0%	0.0 0%	0.0 0%	0.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	64.0
	0.0	0.0	0.0	

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	1	80.0 66%	15.0 80%	125.0 80%	80.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	48.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.0	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	0.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	80.0	15.0	125.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	87.0	15.0	125.0
Potential crop nutrient removal	66.0	10.2	72.0
Nutrient balance	21.0	4.8	53.0
Applied to removal ratio	1.32	1.47	1.74

Fresh water applied: 1.74 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 7 / Wheat, silage, soft dough

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	2	75.0 66%	8.0 66%	60.0 66%	150.0

NUTRIENT BUDGET FOR CROP (CONTINUED): 7 / Wheat, silage, soft dough

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	1	100.0 66%	34.0 66%	160.0 66%	100.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	12.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.0	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	0.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	250.0	50.0	280.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	257.0	50.0	280.0
Potential crop nutrient removal	187.0	28.9	141.1
Nutrient balance	70.0	21.1	138.9
Applied to removal ratio	1.37	1.73	1.98

Fresh water applied: 0.38 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: 7 / Corn, silage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
Commercial fertilizer pre-plant before pre-irrigation *Nutrient source:* Commercial fertilizer *Application method:* Shank	1	80.0 100%	0.0 0%	0.0 0%	80.0
Pre-irrigation prior to planting (no fertilizer) *Nutrient source:* Water only *Application method:* Surface	1	0.0 0%	0.0 0%	0.0 0%	0.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	16.0
	0.0	0.0	0.0	

NUTRIENT BUDGET FOR CROP (CONTINUED): 7 / Corn, silage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (no fertilizer) *Nutrient source:* Water only *Application method:* Surface	6	0.0 0%	0.0 0%	0.0 0%	0.1

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	12.0
	0.0	0.0	0.0	

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	3	80.0 66%	15.0 80%	125.0 80%	240.0

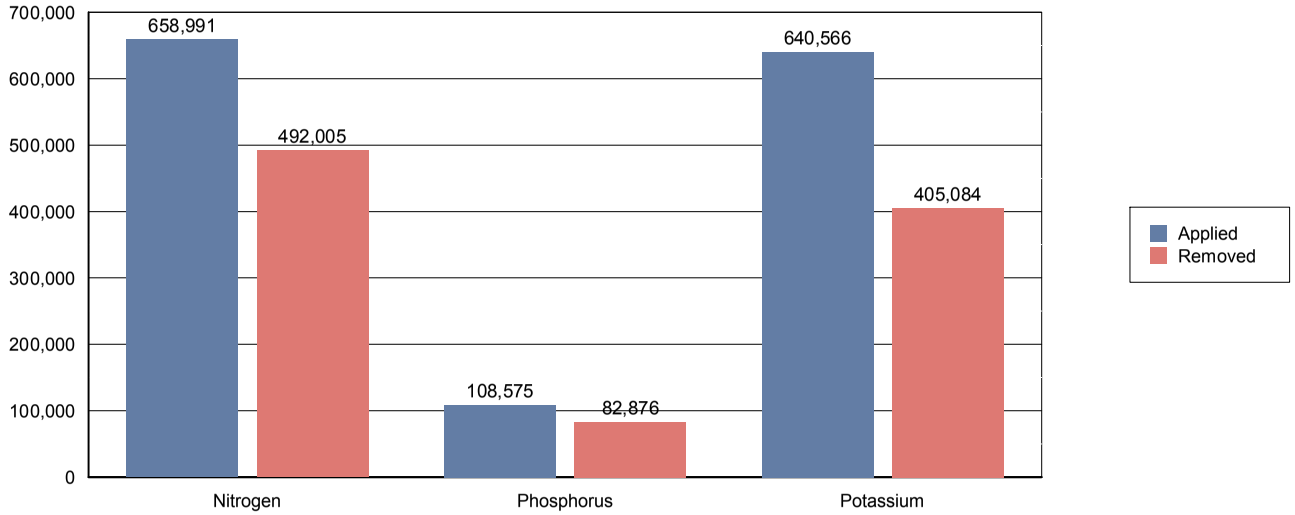
Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Merced Irrigation District	0.0	0.0	0.0	10.0
	0.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	0.1	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	80.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	240.0	45.0	375.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	327.1	45.0	375.0
Potential crop nutrient removal	240.0	45.0	198.0
Nutrient balance	87.1	0.0	177.0
Applied to removal ratio	1.36	1.00	1.89

Fresh water applied: 3.76 *feet* Total harvests: 1

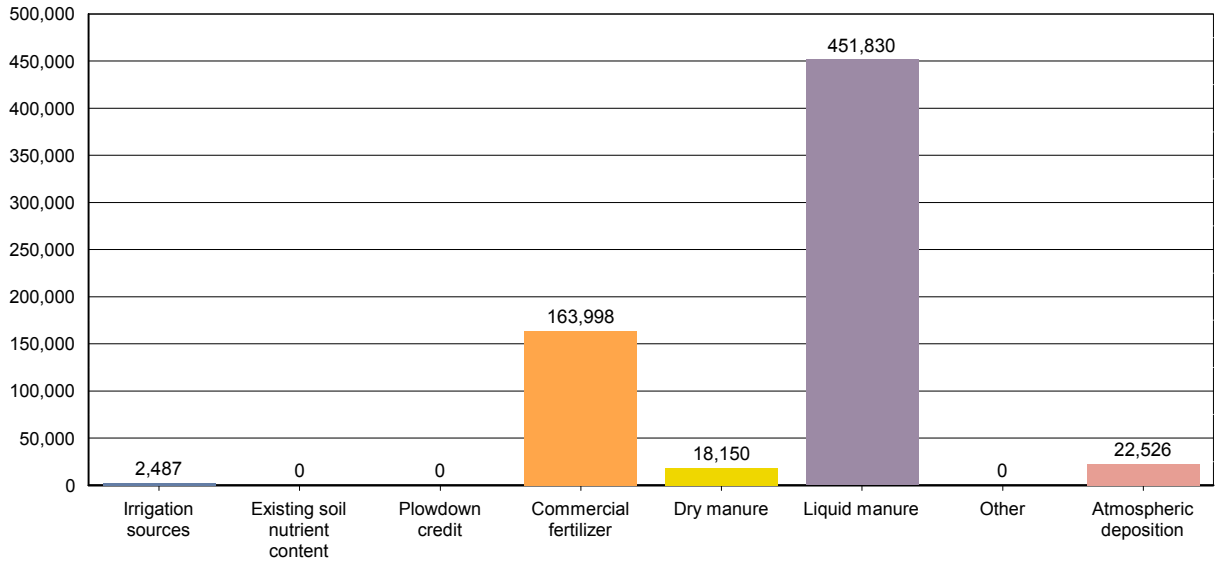
NUTRIENT APPLICATIONS, POTENTIAL REMOVAL, AND BALANCE

A. POUNDS OF NUTRIENT APPLIED VS. CROP REMOVAL POTENTIAL



	Total N (lbs)	Total P (lbs)	Total K (lbs)
Irrigation sources	2,486.6	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	163,998.0	13,920.0	32,016.0
Dry manure	18,150.0	4,290.0	10,230.0
Liquid manure	451,830.0	90,365.0	598,320.0
Other	0.0	0.0	0.0
Atmospheric deposition	22,526.0		
Nutrients applied to all crops	658,990.6	108,575.0	640,566.0
Potential crop nutrient removal	492,005.2	82,876.0	405,084.4
Nutrient balance	166,985.4	25,699.0	235,481.6
Applied to removal ratio	1.34	1.31	1.58

B. POUNDS OF NITROGEN APPLIED BY NUTRIENT SOURCE



	Total N (lbs)	Total P (lbs)	Total K (lbs)
Irrigation sources	2,486.6	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	163,998.0	13,920.0	32,016.0
Dry manure	18,150.0	4,290.0	10,230.0
Liquid manure	451,830.0	90,365.0	598,320.0
Other	0.0	0.0	0.0
Atmospheric deposition	22,526.0		
Nutrients applied to all crops	658,990.6	108,575.0	640,566.0
Potential crop nutrient removal	492,005.2	82,876.0	405,084.4
Nutrient balance	166,985.4	25,699.0	235,481.6
Applied to removal ratio	1.34	1.31	1.58

NUTRIENT BALANCE

A. WHOLE FARM BALANCE

	Total N (lbs)	Total P (lbs)	Total K (lbs)
Nutrients in storage from herd*			
Daily gross	5,961.3	985.4	2,641.4
Annual gross	2,175,870.1	359,683.2	964,116.1
Net to pond storage after ammonia losses (30% loss applied)	860,243.0	206,343.0	642,744.1
Net to drylot storage after ammonia losses (30% loss applied)	662,866.0	153,340.2	597,403.3
Net in storage (30% loss applied)	1,523,109.1	359,683.2	1,240,147.4
Irrigation sources	2,486.6	0.0	0.0
Atmospheric deposition	22,526.0		
Imports	184,855.0	7,177.1	25,770.6
Exports	1,044,907.1	184,971.0	786,676.4
Potential crop nutrient removal	492,005.2	82,876.0	405,084.4
Nutrient balance	196,064.4	99,013.4	74,157.2
Nutrient balance ratio	1.40	2.19	1.18

* Potassium excretion from milk cows and dry cows only.

SAMPLING AND ANALYSIS PLAN

A. MANURE SAMPLING AND ANALYSIS PLAN

			Minimum data collection requirements	
Frequency	Sampling Methods	Source	Field Analytes	Lab Analytes
Twice per year	For each manure source, a composite sample per the “Approved Sampling Procedures for Nutrient and Groundwater Monitoring at Existing Milk Cow Dairies” will be collected.	Corral solids Settling basin solids Mechanically separated solids	None required	Total nitrogen, total phosphorus, total potassium, and percent moisture
Once very two years (biennially)	For each manure source, a composite sample per the “Approved Sampling Procedures for Nutrient and Groundwater Monitoring at Existing Milk Cow Dairies” will be collected.	Corral solids Settling basin solids Mechanically separated solids	None	General Minerals (calcium, magnesium, sodium, sulfur, chloride) and fixed solids (ash).
Each application to each land application area	For each applied manure source, a composite sample per the “Approved Sampling Procedures for Nutrient and Groundwater Monitoring at Existing Milk Cow Dairies” will be collected. For each applied manure source, a scaled weight by truckload will be recorded.	Corral solids Settling basin solids Mechanically separated solids	Date applied and total weight (tons) applied	Percent moisture

A. MANURE SAMPLING AND ANALYSIS PLAN (CONTINUED)

			Minimum data collection requirements	
Frequency	Sampling Methods	Source	Field Analytes	Lab Analytes
Each offsite export of manure	For each manure source exported, a composite sample “Approved Sampling Procedures for Nutrient and Groundwater Monitoring at Existing Milk Cow Dairies” will be collected. For each manure source exported, a scaled weight by truckload will be recorded.	Corral solids Settling basin solids Mechanically separated solids	Date exported and total weight (tons) exported	Percent moisture

A. MANURE SAMPLING AND ANALYSIS PLAN (CONTINUED)

			Minimum data collection requirements	
Frequency	Sampling Methods	Source	Field Analytes	Lab Analytes
Annually	Annual estimation for total manure dry weight applied to each field will be quantified using the following: Dry weight applied from a source to a crop per application event = weight applied * (1 - (percent moisture / 100)) Dry weight applied to crop per application event = sum of dry weights applied from each source Dry weight applied to a crop = sum of dry weights applied during each application Dry weight applied to a field = sum of dry weights applied to each crop Annual estimation for total manure dry weight exported will be quantified using the following: Dry weight exported from a source per event = weight exported * (1 - (percent moisture / 100)) Dry weight exported per event = sum of dry weights exported from each source Dry weight exported to any offsite destination = sum of dry weights exported per event	Corral solids Settling basin solids Mechanically separated solids	Total dry weight (tons) manure applied annually to each land application area, and total dry weight (tons) manure exported offsite annually	None required

B. PROCESS WASTEWATER SAMPLING AND ANALYSIS PLAN

			Minimum data collection requirements	
Frequency	Sampling Methods	Source	Field Analytes	Lab Analytes
Each application	For each pond, a composite or grab sample per the "Approved Sampling Procedures for Nutrient and Groundwater Monitoring at Existing Milk Cow Dairies" will be collected.	WWS 2 WWS 3	Date applied and volume (gallons or acre-inches) applied	None required
Quarterly during one application event	For field measurement: For each pond, a composite or grab sample per the "Approved Sampling Procedures for Nutrient and Groundwater Monitoring at Existing Milk Cow Dairies" will be collected. For laboratory analyses: For each pond, a composite or grab sample per the "Approved Sampling Procedures for Nutrient and Groundwater Monitoring at Existing Milk Cow Dairies" will be collected.	WWS 2 WWS 3	Date applied and electrical conductivity	Nitrate-nitrogen (only when retention pond is aerated), un-ionized ammonia-nitrogen, total Kjeldahl nitrogen, total phosphorus, total potassium and total dissolved solids.
Once every two years (biennially)	For each pond, a composite or grab sample per the "Approved Sampling Procedures for Nutrient and Groundwater Monitoring at Existing Milk Cow Dairies" will be collected.	WWS 2 WWS 3	None	General minerals (calcium, magnesium, sodium, bicarbonate, carbonate, sulfate and chloride).

B. PROCESS WASTEWATER SAMPLING AND ANALYSIS PLAN (CONTINUED)

			Minimum data collection requirements	
Frequency	Sampling Methods	Source	Field Analytes	Lab Analytes
Annually	For each pond, a composite or grab sample per the "Approved Sampling Procedures for Nutrient and Groundwater Monitoring at Existing Milk Cow Dairies" will be collected.	WWS 2 WWS 3	None	Laboratory analyses of liquid process wastewater, prior to blending with irrigation water, for pH, total dissolved solids, electrical conductivity, nitrate-nitrogen, ammonium-nitrogen, total Kjeldahl nitrogen, total phosphorus and total potassium.

C. SOIL SAMPLING AND ANALYSIS PLAN

			Minimum data collection requirements	
Frequency	Sampling Methods	Source	Field Analytes	Lab Analytes
Once every 5 years from each land application area (may be distributed over a 5-year period by sampling 20% of the land application areas annually)	For each field, a composite sample per the "Approved Sampling Procedures for Nutrient and Groundwater Monitoring at Existing Milk Cow Dairies" will be collected.	See LAA Table	None required	0 to 1 foot: Soluble phosphorus

D. PLANT TISSUE SAMPLING AND ANALYSIS PLAN

			Minimum data collection requirements	
Frequency	Sampling Methods	Source	Field Analytes	Lab Analytes
Each crop harvest from each land application area	For each field and crop, a composite sample per the "Approved Sampling Procedures for Nutrient and Groundwater Monitoring at Existing Milk Cow Dairies" will be collected. For each field and crop, a scaled weight by truckload will be recorded.	See LAA Table	Date harvested and total weight (tons) of harvested material removed from each land application area	Record the percent moisture and total weight (tons) of harvested material removed from each land application area. Laboratory analyses for total nitrogen, total phosphorus, total potassium (expressed on a dry weight basis), fixed solids (ash), and percent moisture.

E. IRRIGATION WATER SAMPLING AND ANALYSIS PLAN

			Minimum data collection requirements	
Frequency	Sampling Methods	Source	Field Analytes	Lab Analytes
Each fresh water irrigation event for each land application area	MID Canal - flow rate multiplied by runtime F108 - flow rate multiplied by runtime F116 - flow rate multiplied by runtime F117 - flow rate multiplied by runtime F118 - flow rate multiplied by runtime	MID Canal F108 F116 F117 F118	Date applied and volume (gallons or acre-inches) applied	None required
One irrigation event during each irrigation season during actual irrigation events – for each irrigation water source (well and canal)	For each irrigation source, a grab sample per the "Approved Sampling Procedures for Nutrient and Groundwater Monitoring at Existing Milk Cow Dairies" will be collected. In lieu of sampling the irrigation water, the Discharger may provide equivalent data from the local irrigation district.	MID Canal F108 F116 F117 F118	None required	Electrical conductivity, total dissolved solids, and total nitrogen

F. GROUNDWATER MONITORING SAMPLING AND ANALYSIS PLAN

			Minimum data collection requirements	
Frequency	Sampling Methods	Source	Field Analytes	Lab Analytes
Every five years (may be distributed over a 5-year period by sampling 20% of the wells annually)	For each domestic and agricultural supply well, a grab sample per the "Approved Sampling Procedures for Nutrient and Groundwater Monitoring at Existing Milk Cow Dairies" will be collected.	All Irrigation and Domestic Wells	None required	General minerals, including: calcium, magnesium, sodium, bicarbonate, carbonate, sulfate, chloride Total dissolved solids

F. GROUNDWATER MONITORING SAMPLING AND ANALYSIS PLAN (CONTINUED)

			Minimum data collection requirements	
Frequency	Sampling Methods	Source	Field Analytes	Lab Analytes
Annually	For each domestic and agricultural supply well, a grab sample per the "Approved Sampling Procedures for Nutrient and Groundwater Monitoring at Existing Milk Cow Dairies" will be collected.	All Irrigation and Domestic Wells	Electrical conductivity and ammonion-nitrogen	Nitrate-nitrogen. If field measurement indicates the presence of ammonium-nitrogen, the Discharger shall collect a sample for laboratory analysis of ammonium-nitrogen.

NUTRIENT MANAGEMENT PLAN REVIEW

A. NUTRIENT MANAGEMENT PLAN REVIEW

Person who created the NMP: Ramos, Joe *See above for contact information.*
Date the NMP was drafted: 10/22/2019
Person who approved the final NMP: Ramos, Joe *See above for contact information.*
Date of NMP implementation: 11/01/2019

ATTACHED MAP AND DOCUMENTATION REFERENCES

The following list, based upon user selections and data entries, describes the minimum required attachments that must be submitted with the Nutrient Management Plan for the reporting schedule of 'July 1, 2009'.

A. PRELIMINARY DAIRY FACILITY ASSESSMENT

The NMP will include the initial Preliminary Dairy Facility Assessment (Attachment A) and the annual updates as required by Monitoring and Reporting Program No. R5-2007-0035. Copies of these assessments shall be maintained for 10 years.

B. LAND AREA MAP(S)

Identify each land application area (under the Discharger's control, whether it is owned, rented, or leased, to which manure or process wastewater from the production area is or may be applied for nutrient recycling) on a single published base map

1. A field identification system (Assessor's Parcel Number; land application area; crops grown); indication if each land application is owned, rented, or leased by the Discharger; indication of what type of waste is applied (solid manure only, wastewater only, or both solid manure and wastewater); drainage flow direction in each field, nearby surface waters, and storm water discharge points; tailwater and storm water drainage controls; subsurface (tile) drainage systems (including discharge points and lateral extent); irrigation supply wells and groundwater monitoring wells; sampling locations for discharges of storm water and tailwater to surface water from the field.

2. Process wastewater conveyance structures, discharge points and discharge mixing points with irrigation water supplies; pumping facilities; flow meter locations; drainage ditches and canals, culverts, draining controls (berms, levees, etc.), and drainage easements.

Application area map reference number: Figure 3 & 4

Identify each field under control of the Discharger and within five miles of the dairy where neither process wastewater nor manure is applied. Each field shall be identified on a single published base map at an appropriate scale by the following:

1. Assessor's Parcel Number.
2. Total acreage.
3. Information on who owns or leases the field

Non-application area map reference number: Figure 3

Setbacks, Buffers, and Other Alternatives to Protect Surface Water (see Technical Standard VII):

1. Identify all potential surface waters or conduits to surface water that are within 100 feet of any land application area.
2. For each land application area that is within 100 feet of a surface water or a conduit to surface water, identify the setback, vegetated buffer, or other alternative practice that will be implemented to protect surface water (Technical Standard VII).

Setbacks and buffers map reference number: Figure 3 & 4

C. PROCESS WASTEWATER WRITTEN AGREEMENTS

Provide copies of written agreements with third parties that receive process wastewater for their own use from the Discharger's dairy (Technical Standards V.A.1 and V.A.3).

Nutrient Management Plan Report
General Order No. R5-2007-0035, Attachment C
July 1, 2009 deadline

SAMPLING AND ANALYSIS PLAN CERTIFICATION

A. DAIRY FACILITY INFORMATION

Name of dairy or business operating the dairy: Hillcrest Dairy LLC

Physical address of dairy:

1901 N Hayden RD	Le Grand	Merced	95333
Physical Address Number and Street	City	County	Zip Code

Street and nearest cross street (if no address):

B. DOCUMENTATION OF QUALIFICATIONS AND PLAN DEVELOPMENT

I certify that I meet the requirements as a certified specialist in developing nutrient management plans as described in Attachment C of Waste Discharge Requirements General Order No. R5-2007-0035 and that I prepared the Sampling and Analysis plan.

Technical Service Provider
TITLE/QUALIFICATIONS OF CERTIFIED NUTRIENT MANAGEMENT SPECIALIST

SIGNATURE OF TRAINED PROFESSIONAL — DATE: 8/4/20

Joe Ramos
PRINT OR TYPE NAME

2857 Geer RD, STE A; Turlock, CA 95382
MAILING ADDRESS

(209) 250-2471
PHONE NUMBER

C. OWNER AND/OR OPERATOR 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 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.

SIGNATURE OF OWNER OF FACILITY

Edward Hoekstra
PRINT OR TYPE NAME

9-01-20
DATE

SIGNATURE OF OPERATOR OF FACILITY

PRINT OR TYPE NAME

DATE

Nutrient Management Plan Report
General Order No. R5-2007-0035, Attachment C
July 1, 2009 deadline

NUTRIENT BUDGET CERTIFICATION

A. DAIRY FACILITY INFORMATION

Name of dairy or business operating the dairy: Hillcrest Dairy LLC

Physical address of dairy:

1901 N Hayden RD	Le Grand	Merced	95333
Number and Street	City	County	Zip Code

Street and nearest cross street (if no address): _____

B. DOCUMENTATION OF QUALIFICATIONS AND PLAN DEVELOPMENT

I certify that I meet the requirements as a certified specialist in developing nutrient management plans as described in Attachment C of Waste Discharge Requirements General Order No. R5-2007-0035 and that I prepared the Nutrient Budget plan.

Technical Service Provider
TITLE/QUALIFICATIONS OF CERTIFIED NUTRIENT MANAGEMENT SPECIALIST

SIGNATURE OF TRAINED PROFESSIONAL — DATE: 8/4/20

Joe Ramos
PRINT OR TYPE NAME

2857 Geer RD, STE A; Turlock, CA 95382
MAILING ADDRESS

(209) 250-2471
PHONE NUMBER

C. OWNER AND/OR OPERATOR 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 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.

SIGNATURE OF OWNER OF FACILITY	SIGNATURE OF OPERATOR OF FACILITY
Edward Hoekstra	
PRINT OR TYPE NAME	PRINT OR TYPE NAME
9-01-20	
DATE	DATE

Nutrient Management Plan Report
General Order No. R5-2007-0035, Attachment C
July 1, 2009 deadline

STATEMENTS OF COMPLETION

Waste Discharge Requirements General Order No. R5-2007-0035 for Existing Milk Cow Dairies (General Order) requires owners and operators of existing milk cow dairies (Dischargers) to develop and implement a Nutrient Management Plan for their land application areas (land under control of the Discharger, whether it is owned, rented, or leased, to which manure or process wastewater from the production area is or may be applied for nutrient cycling). The Discharger is required to maintain the NMP at the dairy, make the NMP available to Central Valley Water Board staff during their inspections, and submit the NMP to the Executive Officer upon request.

The General Order requires the Discharger to submit two Statements of Completion during development of the NMP. The Discharger may use this form to comply with the General Order requirement to submit one or both of these Statements of Completion. Parts A and E must be completed for each Statement of Completion. Parts B, C and D are to be completed for the Statements of Completion due by 1 July 2008, 31 December 2008 and 1 July 2009, respectively. Both the owner and the operator of the dairy must sign this form in Part E below.

A. DAIRY FACILITY INFORMATION

Name of dairy or business operating the dairy: Hillcrest Dairy LLC

1901 N Hayden RD	Le Grand	Merced	95333
Number and Street	City	County	Zip Code

Street and nearest cross street (if no address): _____

Operator name: _____ Telephone no.: _____ (Landline) _____ (Cellular)

_____ _____ _____ _____
Mailing Address Number and Street | City | State | Zip Code

Legal owner name: Hoekstra, Edward Telephone no.: (209) 382-0669 (Landline) (209) 535-8591 (Cellular)

1901 N Hayden RD	Le Grand	CA	95333
Mailing Address Number and Street	City	State	Zip Code

B. STATEMENT OF COMPLETION DUE 1 JULY 2008

I have completed the following items of the Nutrient Management Plan (check the boxes of completed sections), which are due 1 July 2008:

☐ **Item I.A.1 Land Application Information**
Identification of land used for manure application and needed information on a facility map.

☐ **Item I.B Land Application Information**
Information list for information provided on map above.

☐ **Item I.C Land Application Information**
Copies of written third-party process wastewater agreements.

☐ **Item I.D Land Application Information**
Identification of fields under control of the discharger within five miles of the dairy where neither process wastewater nor manure is applied.

☐ **Item II Sampling and Analysis Plan**

☐ **Item IV Setbacks, Buffers, and Other Alternatives to Protect Surface Water**
Identification of all potential surface waters or conduits to surface waters within 100 feet of land application areas and appropriate protection.

☐ **Item VI Record-Keeping Requirements**
Identification of monitoring records that will be maintained as required in the production and land application areas.

Has Item II (Sampling and Analysis Plan) of the Nutrient Management Plan been certified by a Certified Nutrient Management Specialist as required in the General Order?

☐ Yes ☐ No

C. STATEMENT OF COMPLETION DUE 31 DECEMBER 2008

I have completed the following items of the Nutrient Management Plan (check the boxes of completed sections), which are due 31 December 2008:

☐ **Item V Field Risk Assessment**
Evaluation of the effectiveness of management practices used to control the discharge of waste constituents from land application areas by assessing the water quality monitoring results of discharges of manure, process wastewater, tailwater, subsurface (tile) drainage, or storm water from the land application areas.

D. STATEMENT OF COMPLETION DUE 1 JULY 2009

I have completed the following items of the Nutrient Management Plan (check the boxes of completed sections), which are due 1 July 2009:

☐ **Item I.A.2 Land Application Area Information**
Identification of process wastewater conveyance, mixing and drainage information for each land application area on a facility map.

☐ **Item III Nutrient Budget**
Established planned rates of nutrient applications by crop based on nutrient monitoring results for each land application area.

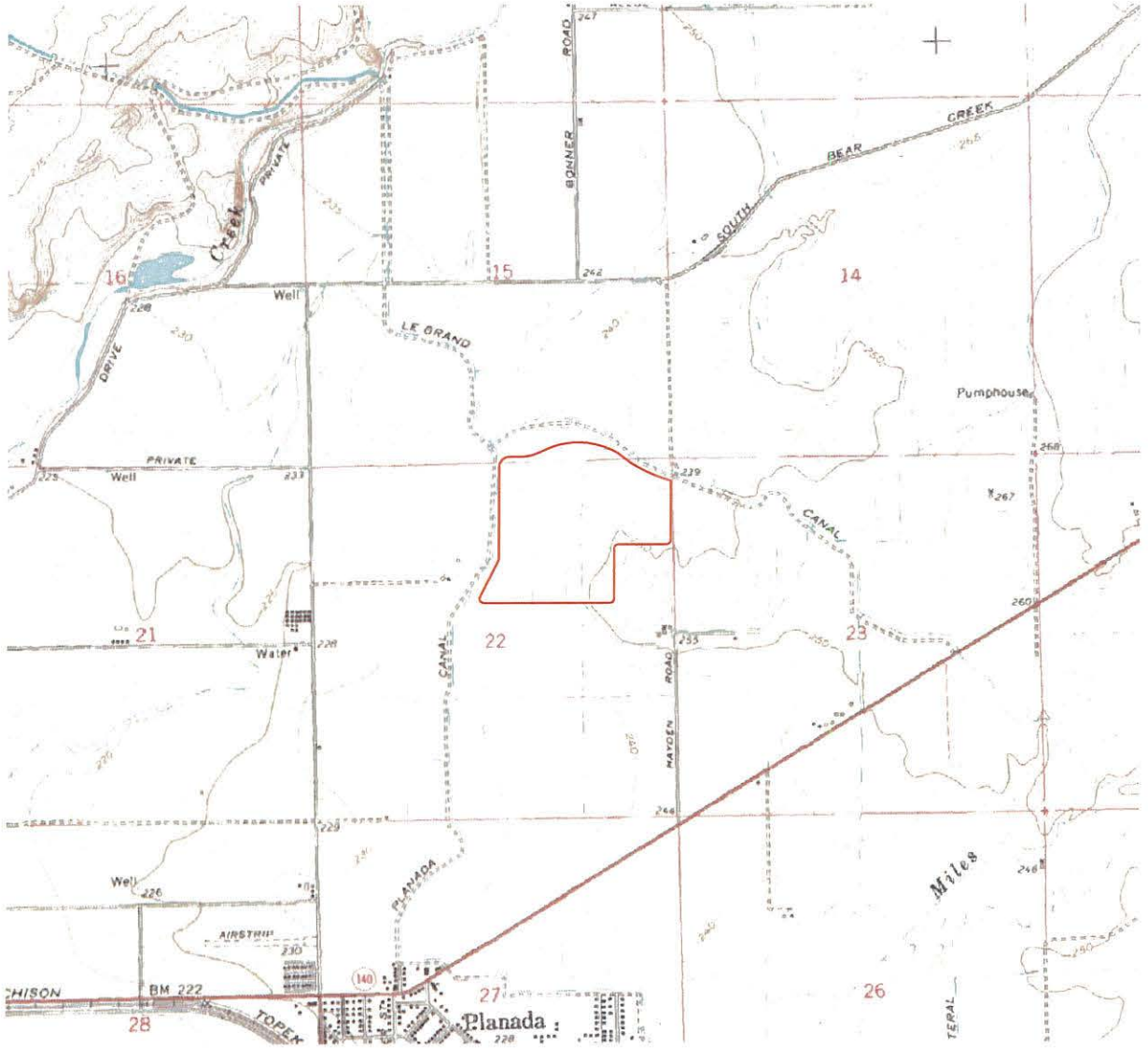
Has Item III (Nutrient Budget) of the Nutrient Management Plan been certified by a Certified Nutrient Management Specialist as required in the General Order?

☐ Yes ☐ No

E. CERTIFICATION STATEMENT

I certify under penalty of law that I have completed the items of the Nutrient Management Plan that are checked in Parts B, C and/or D above for the dairy identified in Part A above and that the appropriate certified nutrient management specialist has certified the items requiring such certification as noted in part B and/or D above and that I have personally examined and am familiar with the information submitted in Parts A, B, C and D of this document and all attachments and that, based 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.

SIGNATURE OF OWNER OF FACILITY	SIGNATURE OF OPERATOR OF FACILITY
Edward Hoekstra	
PRINT OR TYPE NAME	PRINT OR TYPE NAME
9-01-20	
DATE	DATE



LEGEND

☐ Facility Boundary

N

Ag Services, Inc.

SCALE:

0 4,000 8,000

APPROXIMATE SCALE IN FEET

HILLCREST DAIRY
MERCED COUNTY, CA

FIGURE 2
TOPOGRAPHIC MAP

PROJECT NO.	DATE:	DRAWN BY:	APP. BY:
FRA-00	8/16/14	SB	JR

Hillcrest Dairy

Ag Services, Inc.

SCALE:

0 600 1200

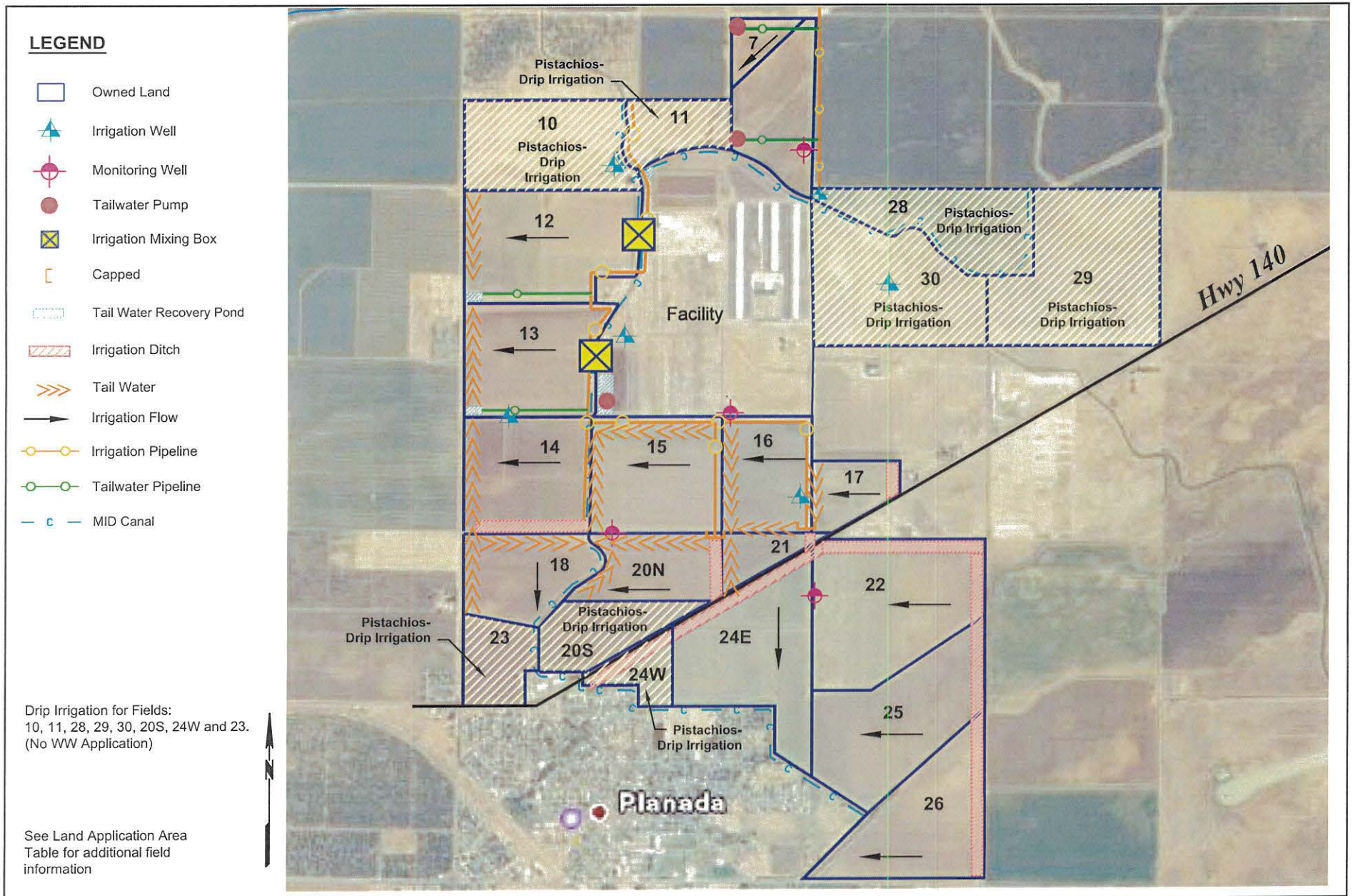
APPROXIMATE SCALE IN FEET

HILLCREST DAIRY
MERCED COUNTY, CA

FIGURE 2
DAIRY FACILITY

PROJECT NO.	DATE:	DRAWN BY:	APP. BY:
FRA-00	9/24/19	SB	JR

Hillcrest



Ag Services, Inc.

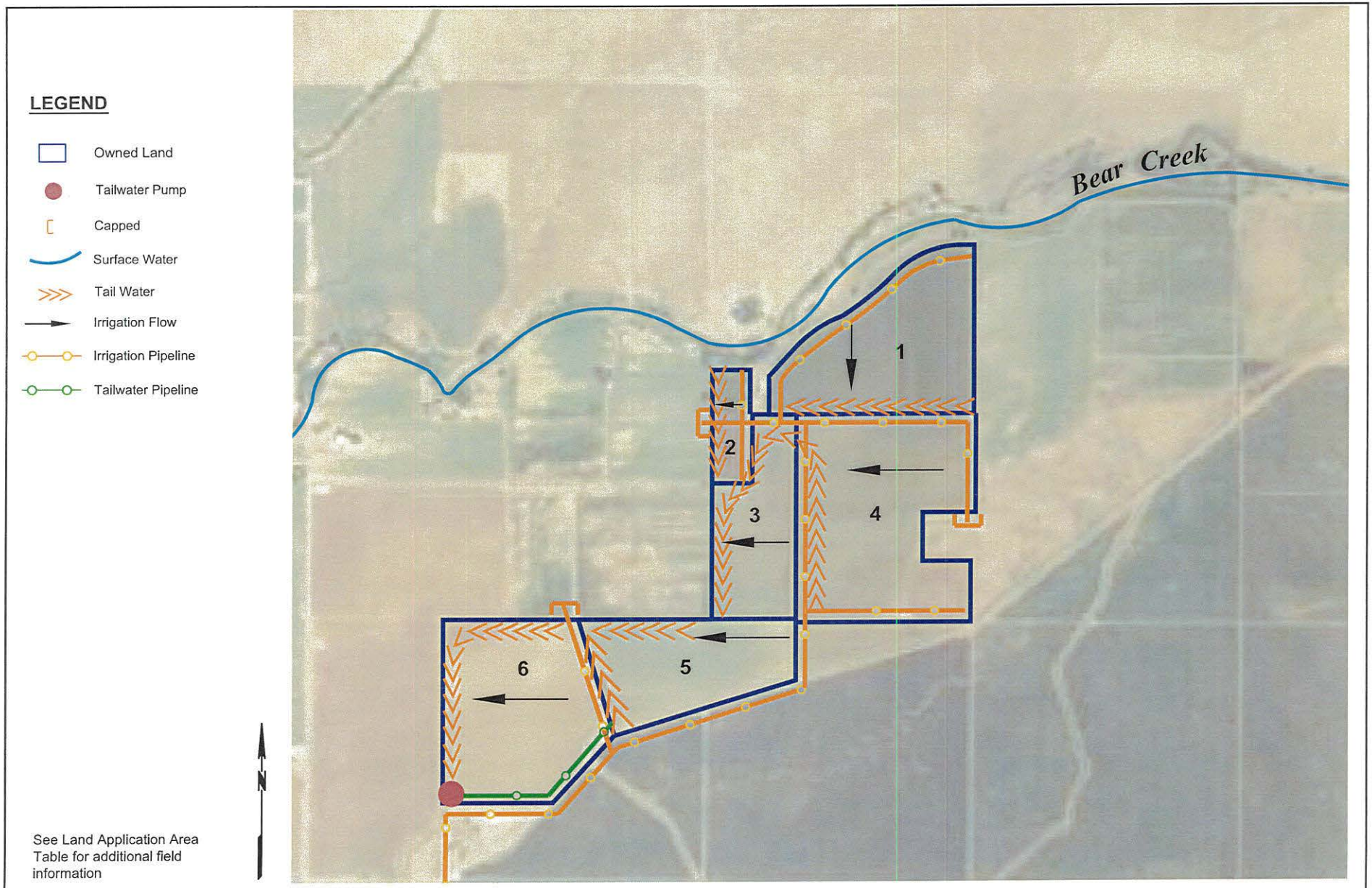
SCALE:
0 300 600
APPROXIMATE SCALE IN FEET

HILLCREST DAIRY
MERCED COUNTY, CA

FIGURE 3
DAIRY FIELDS

PROJECT NO.	DATE:	DRAWN BY:	APP. BY:
FRA-00	9/24/19	SB	JR

Hillcrest



Ag Services, Inc.	SCALE: 0 200 400 APPROXIMATE SCALE IN FEET	HILLCREST DAIRY MERCED COUNTY, CA			**FIGURE** 4 DAIRY FIELDS
	PROJECT NO. FRA-00	DATE: 8/16/14	DRAWN BY: SB	APP. BY: JR	Hillcrest Dairy

LAND APPLICATION AREA FIELD INFORMATION ATTACHMENT

DAIRY NAME: **Hillcrest Dairy**
DAIRY ADDRESS: 1901 N Hayden RD Le Grand, CA 95333

APN	FIELD ID	ACRES	CROPS GROWN	OPERATED BY DAIRY OWNER	LEASED BY DAIRY OPERATOR	LEASED BY OTHER	NUTRIENTS APPLIED
053-080-045	1	59	Corn/ Sorghum Sudan	X			Wastewater/Solid Manure
053-080-045	2	9	Corn/ Sorghum Sudan	X			Wastewater/Solid Manure
053-080-045	3	33	Corn/ Sorghum Sudan	X			Wastewater/Solid Manure
053-080-044, 045	4	76	Corn/ Sorghum Sudan	X			Wastewater/Solid Manure
053-100-069	5	35	Corn/ Sorghum Sudan	X			Wastewater/Solid Manure
053-100-069	6	57	Corn/ Sorghum Sudan	X			Wastewater/Solid Manure
053-100-042	7	13	Wheat/ Corn	X			Wastewater/Solid Manure
053-100-042	10	67	Pistachio	X			None
053-100-042	11	21	Pistachio	X			None
053-100-043	12	93	Corn/ Sorghum Sudan	X			Wastewater/Solid Manure
053-100-043	13	79	Wheat/ Corn	X			Wastewater/Solid Manure
053-100-043	14	74	Wheat/ Corn	X			Wastewater/Solid Manure
053-100-043	15	78	Wheat/ Corn	X			Wastewater/Solid Manure
053-100-044	16	50	Wheat/ Corn	X			Wastewater/Solid Manure
053-110-006	17	28	Wheat/ Corn	X			Wastewater/Solid Manure
053-150-033	18	50	Wheat/ Corn	X			Wastewater/Solid Manure

LAND APPLICATION AREA FIELD INFORMATION ATTACHMENT							
APN	**FIELD ID**	**ACRES**	**CROPS GROWN**	**OPERATED BY DAIRY OWNER**	**LEASED BY DAIRY OPERATOR**	**LEASED BY OTHER**	**NUTRIENTS APPLIED**
053-153-033	20 N	37	Wheat/ Corn	X			Wastewater/Solid Manure
037-040-003 053-153-033	20 S	43	Pistachio	X			None
053-150-033	21	15	Wheat/ Corn	X			Wastewater/Solid Manure
053-150-006	22	115	Wheat/ Corn	X			Wastewater/Solid Manure
037-040-003	23	27	Pistachio	X			None
037-040-003 053-150-032	24 E	81	Wheat/ Corn	X			Wastewater/Solid Manure
037-040-003	24 W	16	Pistachio	X			None
053-150-006	25	91	Wheat/ Corn	X			Wastewater/Solid Manure
053-150-006	26	74	Wheat/ Corn	X			Solid Manure
053-100-065 053-100-047	28	57	Pistachio	X			None
053-100-065	29	130	Pistachio	X			None
053-100-047	30	103	Pistachio	X			None

Waste Management Plan Report
General Order No. R5-2007-0035, Attachment B
July 1, 2010 deadline

DAIRY FACILITY INFORMATION

A. NAME OF DAIRY OR BUSINESS OPERATING THE DAIRY: Hillcrest Dairy LLC

Physical address of dairy:

1901 N Hayden RD	Le Grand	Merced	95333
Number and Street	City	County	Zip Code

Street and nearest cross street (if no address):

TRS Data and Coordinates:

7S	15E	14	Mt. Diablo	37° 18' 46.52" N	120° 18' 31.82" W
Township (T_)	Range (R_)	Section (S_)	Baseline meridian	Latitude (N)	Longitude (W)

Date facility was originally placed in operation: 06/12/2002

Regional Water Quality Control Board Basin Plan designation: San Joaquin River Basin

County Assessor Parcel Number(s) for dairy facility:

0053-0010-0013-0000 0053-0010-0042-0000 0053-0010-0043-0000

B. OPERATOR NAME: Hoekstra, Edward Telephone no.: (209) 382-0669 (Landline) (209) 535-8591 (Cellular)

1901 N Hayden RD	Le Grand	CA	95333
Mailing Address Number and Street	City	State	Zip Code

Operator should receive Regional Board correspondence (check): [X] Yes [ ] No

C. LEGAL OWNER NAME: Hoekstra, Edward Telephone no.: (209) 382-0669 (Landline) (209) 535-8591 (Cellular)

1901 N Hayden RD	Le Grand	CA	95333
Mailing Address Number and Street	City	State	Zip Code

Owner should receive Regional Board correspondence (check): [X] Yes [ ] No

D. CONTACT NAME: Mitchell, Michael Telephone no.: (209) 664-1067 (Landline)

Title: Professional Engineer

18836 E Clausen RD	Turlock	CA	95380
Mailing Address Number and Street	City	State	Zip Code

CONTACT NAME: Ramos, Joe Telephone no.: (209) 250-2471 (Landline) (209) 226-2375 (Cellular)

Title: Technical Service Provider

2857 Geer RD, STE A	Turlock	CA	95382
Mailing Address Number and Street	City	State	Zip Code

Waste Management Plan Report
General Order No. R5-2007-0035, Attachment B
July 1, 2010 deadline

HERD AND MILKING EQUIPMENT

A. HERD AND MILKING

The milk cow dairy is currently regulated under individual Waste Discharge Requirements.

Total number of milk and dry cows combined as a baseline value in response to the Report of Waste Discharge (ROWD) request of October, 2005:

5,750 milk and dry cows combined (regulatory review is required for any expansion)

Type of Animal	Present Count	Maximum Count	Daily Flush Hours	Avg Live Weight (lbs)
Milk Cows	4,000	5,000	18	1,400
Dry Cows	750	750	5	1,500
Bred Heifers (15-24 mo.)	1,400	1,625	5	900
Heifers (7-14 mo.)	1,400	1,625	5	700
Calves (4-6 mo.)	500	750	5	
Calves (0-3 mo.)	0	0	0	

Predominant milk cow breed: Holstein

Average milk production: 72 pounds per cow per day

Average number of milk cows per string sent to the milkbarn: 263 milk cows per string

Number of milkings per day: 2.0 milkings per day

Number of times milk tank is emptied/filled each day: 7.0 per day

Number of hours spent milking each day: 24.0 hours per day

B. MILKBARN EQUIPMENT AND FLOOR WASH

Bulk tank wash and sanitizing: 3.0 run cycles/wash

Bulk tank wash vat volume: 100 gallons/cycle

Bulk tank wash wastewater: 2,100.0 gallons/day

Pipeline wash and sanitizing: 3.0 run cycles/wash

Pipeline wash vat volume: 200 gallons/cycle

Pipeline wash wastewater: 1,200.0 gallons/day

Reused / recycled water is the source of parlor floor wash water: [X] Yes [ ] No

Milkbarn / parlor floor wash volume: 20,000 gallons/day

Plate coolers type: Well Water Cooled (Water Reused/Recycled)

Plate coolers volume: 83,721 gallons/day

Vacuum pumps / air compressors / chillers type: Mechanically/Air Cooled

Vacuum pumps / air compressors / chillers volume: 0 gallons/day

Milkbarn and equipment wastewater volume generated daily: 87,021 gallons/day

C. OTHER WATER USES

Reused/recycled water is the source of herd drinking water: [ ] Yes [X] No

	Milk Cows	Dry Cows	Bred Heifers (15-24 mo.)	Bred Heifers (7-14 mo.)	Calves (4-6 mo.)	Calves (0-3 mo.)
Number of cows drinking from reusable water:	0 *of 4,000*	0 *of 750*	0 *of 1,400*	0 *of 1,400*	0 *of 500*	0 *of 0*
Gallons per head per day:	0	0	0	0	0	0

Total reusable water consumed by herd: 0 gallons/day

Reused/recycled water is the source of sprinkler pen water: [X] Yes [ ] No

Number of sprinklers in the holding pen: 0 sprinklers

Duration of each sprinkler cycle: 1.0 minutes

Number of sprinkler pen runs/milking: 1 cycles/milking

Flow rate for each sprinkler head: 1.0 gallons/minute

Total sprinkler pen wastewater volume: 0 gallons/day

Total fresh water used in manure flush lane system(s): 0 gallons/day

D. MISCELLANEOUS EQUIPMENT

No miscellaneous equipment entered.

E. MILKBARN AND EQUIPMENT SUMMARY

Number of days in storage period: 120 days

Water available for reuse/recycle: 83,721 gallons/day

Recycled water reused: 20,000 gallons/day

Recycled water leaving system: 0 gallons/day

Reusable water balance: 63,721 gallons/day

Volume of milkbarn and equipment wastewater generated for storage period: 10,442,520 gallons/storage period

MANURE AND BEDDING SOLIDS

A. IMPORTED AND FACILITY GENERATED BEDDING

Bedding Type	Imported or Generated (tons)	Density (lbs/cu. ft.)	Applied Separation Efficiency (default)	Solids to Pond (cu. ft./period)
Rice hulls	133	9.0	85%	4,433
Almond shells	500	20.0	85%	7,500
Facility generated bedding	400	40.0	50%	10,000
			Total:	21,933

B. SOLIDS SEPARATION PROCESS

Combined manure solids separation efficiency (weight basis): 65 %

Description of all solids separation equipment used in flushed lane manure management systems:

Sand Trap with(4) Mechanical Separators, two solid settling basins.

C. MANURE AND BEDDING SOLIDS SUMMARY

	cubic feet		gallons	
	day	storage period	day	storage period
Manure generated by the herd (pre-separation):	15,363.92	1,843,670	114,930.07	13,791,608
Manure generated by the herd sent to pond(s):	7,320.39	878,447	54,760.35	6,571,242
Manure generated by the herd sent to dry lot(s):	6,016.26	721,951	45,004.75	5,400,570
Manure solids (herd) removed by separation:	981.39	117,767	7,341.31	880,957
Liquid component in separated solids not send to pond(s):	1,045.87	125,505	7,823.67	938,840
Imported and facility generated bedding sent to pond(s):	182.78	21,933	1,367.27	164,073
Total manure and bedding sent to pond(s):	7,503.17	900,381	56,127.62	6,735,314
Residual manure solids and bedding sent to pond(s) w/factor:	355.61	42,673	2,660.14	319,217
	cubic feet per year		gallons per year	
Residual manure solids and bedding sent to pond(s) w/factor:	129,797		970,952	

RAINFALL AND RUNOFF

A. RAINFALL ESTIMATES

Rainfall station nearest the facility: Merced

25 year/24 hour storm event (default NOAA Atlas 2, 1973): 2.50 inches/storage period

25 year/24 hour storm event (user-override): 3 inches/storage period

Storage period rainfall (default DWR climate data): 8.05 inches/storage period

Storage period rainfall (user-override): inches/storage period

Flood zone: Zone X

B. IMPERVIOUS AREAS

Name	Surface Area (sq. ft.)	Quantity	25yr/24hr Storm Runoff Coefficient	Storage Period Runoff Coefficient	Runoff Destination
Dairy Control Lanes	65,736	1	0.97	0.50	Drains into pond(s).
Existing Heifer Feed/Flush Alleys	226,105	1	0.97	0.50	Drains into pond(s).
Feed Slab	394,515	1	0.97	0.50	Drains into pond(s).
Manure Separator Stacking Pad/Processing Pits	57,298	1	0.97	0.50	Drains into pond(s).
Proposed Feed/Manure Stacking Additions	200,000	1	0.97	0.50	Drains into pond(s).
Proposed Heifer Corrals Feed Alley	55,200	1	0.97	0.50	Drains into pond(s).

Sand Trap	5,099	1	0.97	0.50	Drains into pond(s).

Surface area that does not run off into pond(s): 0 sq. ft.
Surface area that runs off into pond(s): 1,003,953 sq. ft.
Total surface area: 1,003,953 sq. ft.
Runoff from normal storage period rainfall: 2,519,009 gallons/storage period
Runoff from normal storage period rainfall with 1.5 factor: 3,778,514 gallons/storage period
25 year/24 hour storm event runoff: 1,821,197 gallons/storage period
Total surface area runoff: 4,340,206 gallons/storage period
Total surface area runoff with 1.5 factor: 5,599,711 gallons/storage period

C. ROOF AREAS

Name	Surface Area (sq. ft.)	Quantity	Runoff Destination
Center Freestall	104,791	1	Wastewater pond
Close Up Barn	32,630	1	Wastewater pond
Commodity Barn	13,344	1	Wastewater pond
East and West Freestalls	181,378	2	Wastewater pond
Half Freestall	27,943	1	Wastewater pond
Maternity Barn	21,345	1	Wastewater pond
Milking Parlor	45,793	1	Yard
Proposed Dry Cow Barns	44,000	3	Wastewater pond
Proposed Freestall	50,000	1	Wastewater pond
Proposed Special Needs Barn 2	13,678	1	Wastewater pond
Special Needs Barn	13,678	1	Wastewater pond

Surface area that does not run off into pond(s): 45,793 sq. ft.
Surface area that runs off into pond(s): 772,165 sq. ft.
Total surface area: 817,958 sq. ft.
Runoff from normal storage period rainfall: 3,874,864 gallons/storage period
Runoff from normal storage period rainfall with 1.5 factor: 5,812,297 gallons/storage period
25 year/24 hour storm event runoff: 1,444,049 gallons/storage period
Total surface area runoff: 5,318,913 gallons/storage period
Total surface area runoff with 1.5 factor: 7,256,345 gallons/storage period

D. EARTHEN AREAS

Name	Surface Area (sq. ft.)	Quantity	25yr/24 Storm Coefficient	Storage Period Coefficient	Runoff Destination
Existing Corrals, Soil Surfaces	4,361,503	1	0.35	0.20	Drains into pond(s).

Proposed New Heifer Corrals	526,800	1	0.35	0.20	Drains into pond(s).

Surface area that does not run off into pond(s):	0	sq. ft.
Surface area that runs off into pond(s):	4,888,303	sq. ft.
Total surface area:	4,888,303	sq. ft.
Runoff from normal storage period rainfall:	4,906,079	gallons/storage period
Runoff from normal storage period rainfall with 1.5 factor:	7,359,118	gallons/storage period
25 year/24 hour storm event runoff:	3,199,616	gallons/storage period
Total surface area runoff:	8,105,695	gallons/storage period
Total surface area runoff with 1.5 factor:	10,558,734	gallons/storage period

E. TAILWATER MANAGEMENT

No fields with tailwater entered.

LIQUID STORAGE

A. POND OR BASIN DESCRIPTION: SSB 1

Pond is rectangular in shape: [X] Yes [ ] No

Dimensions			
Earthen Length (EL):	1,000 ft.	Earthen Depth (ED):	15 ft.
Earthen Width (EW):	60 ft.	Side Slope (S):	1.5 ft. (h:1v)
Free Board (FB):	2 ft.	Dead Storage Loss (DS):	2.0 ft.

Calculations			
Liquid Length (LL):	994 ft.	Storage Volume Adjusted for Dead Storage Loss:	404,217 cu. ft.
Liquid Width (LW):	54 ft.		
Pond Surface Area:	60,000 sq. ft.	Pond Marker Elevation:	11.5 ft.
Storage Volume:	438,711 cu. ft.	Evaporation Volume:	322,218 gals/period
		Adjusted Surface Area:	51,355 sq. ft.

POND OR BASIN DESCRIPTION: SSB 2

Pond is rectangular in shape: [X] Yes [ ] No

Dimensions			
Earthen Length (EL):	1,000 ft.	Earthen Depth (ED):	15 ft.
Earthen Width (EW):	60 ft.	Side Slope (S):	1.5 ft. (h:1v)
Free Board (FB):	2 ft.	Dead Storage Loss (DS):	2.0 ft.

Calculations			
Liquid Length (LL):	994 ft.	Storage Volume Adjusted for Dead Storage Loss:	404,217 cu. ft.
Liquid Width (LW):	54 ft.		
Pond Surface Area:	60,000 sq. ft.	Pond Marker Elevation:	11.5 ft.
Storage Volume:	438,711 cu. ft.	Evaporation Volume:	322,218 gals/period
		Adjusted Surface Area:	51,355 sq. ft.

POND OR BASIN DESCRIPTION: WWS 1

Pond is rectangular in shape: [X] Yes [ ] No

Dimensions			
Earthen Length (EL):	900 ft.	Earthen Depth (ED):	15 ft.
Earthen Width (EW):	150 ft.	Side Slope (S):	1.0 ft. (h:1v)
Free Board (FB):	2 ft.	Dead Storage Loss (DS):	3.0 ft.

Calculations			
Liquid Length (LL):	896 ft.	Storage Volume Adjusted for Dead Storage Loss:	1,205,293 cu. ft.
Liquid Width (LW):	146 ft.		
Pond Surface Area:	135,000 sq. ft.	Pond Marker Elevation:	11.6 ft.
Storage Volume:	1,527,439 cu. ft.	Evaporation Volume:	811,859 gals/period
		Adjusted Surface Area:	129,395 sq. ft.

POND OR BASIN DESCRIPTION: WWS 2

Pond is rectangular in shape: [X] Yes [ ] No

Dimensions			
Earthen Length (EL):	900 ft.	Earthen Depth (ED):	15 ft.
Earthen Width (EW):	300 ft.	Side Slope (S):	1.5 ft. (h:1v)
Free Board (FB):	2 ft.	Dead Storage Loss (DS):	3.0 ft.

Calculations			
Liquid Length (LL):	894 ft.	Storage Volume Adjusted for Dead Storage Loss:	2,453,160 cu. ft.
Liquid Width (LW):	294 ft.		
Pond Surface Area:	270,000 sq. ft.	Pond Marker Elevation:	11.6 ft.
Storage Volume:	3,122,301 cu. ft.	Evaporation Volume:	1,633,934 gals/period
		Adjusted Surface Area:	260,417 sq. ft.

POND OR BASIN DESCRIPTION: WWS 3

Pond is rectangular in shape: [X] Yes [ ] No

Dimensions			
Earthen Length (EL):	1,000 ft.	Earthen Depth (ED):	15 ft.
Earthen Width (EW):	250 ft.	Side Slope (S):	3.0 ft. (h:1v)
Free Board (FB):	2 ft.	Dead Storage Loss (DS):	3.0 ft.

Calculations			
Liquid Length (LL):	988 ft.	Storage Volume Adjusted for Dead Storage Loss:	1,995,640 cu. ft.
Liquid Width (LW):	238 ft.		
Pond Surface Area:	250,000 sq. ft.	Pond Marker Elevation:	11.6 ft.
Storage Volume:	2,461,654 cu. ft.	Evaporation Volume:	1,443,002 gals/period
		Adjusted Surface Area:	229,987 sq. ft.

Potential storage losses (due to dead storage): 1,526,289.0 cubic feet - or - 11,417,434.6 gallons

Liquid storage surface area: 736,148 sq. ft.

Rainfall onto retention pond(s): 3,889,091 gallons/storage period

Rainfall runoff into retention pond(s): 11,299,952 gallons/storage period

Normal rainfall onto retention pond(s) with 1.5 factor: 5,833,636 gallons/storage period

Normal rainfall runoff into retention pond(s) with 1.5 factor: 16,949,928 gallons/storage period

Storage period evaporation (default): 13.42 inches/storage period

Storage period evaporation (user-override): inches/storage period

Storage period evaporation volume: 4,533,231 gallons/storage period

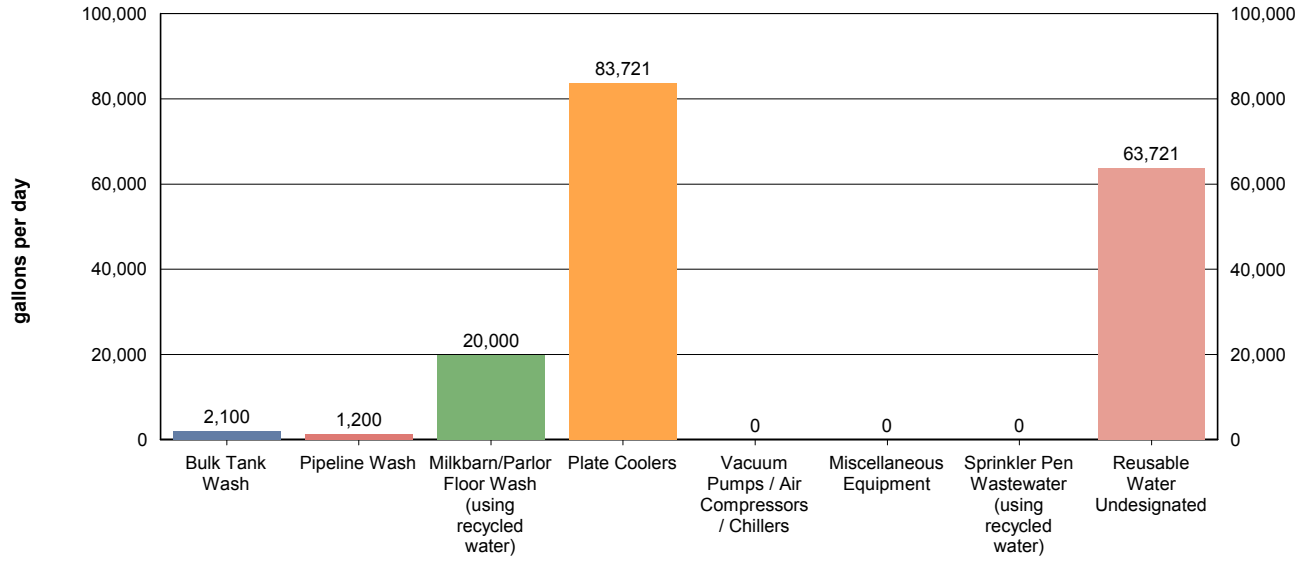
Manure and bedding sent to pond(s): 6,735,314 gallons/storage period

Milkbarn water sent to pond(s): 10,442,520 gallons/storage period

Fresh flush water for storage period: 0 gallons/storage period

CHARTS

A. MILKBARN WASTEWATER SENT TO POND(S)

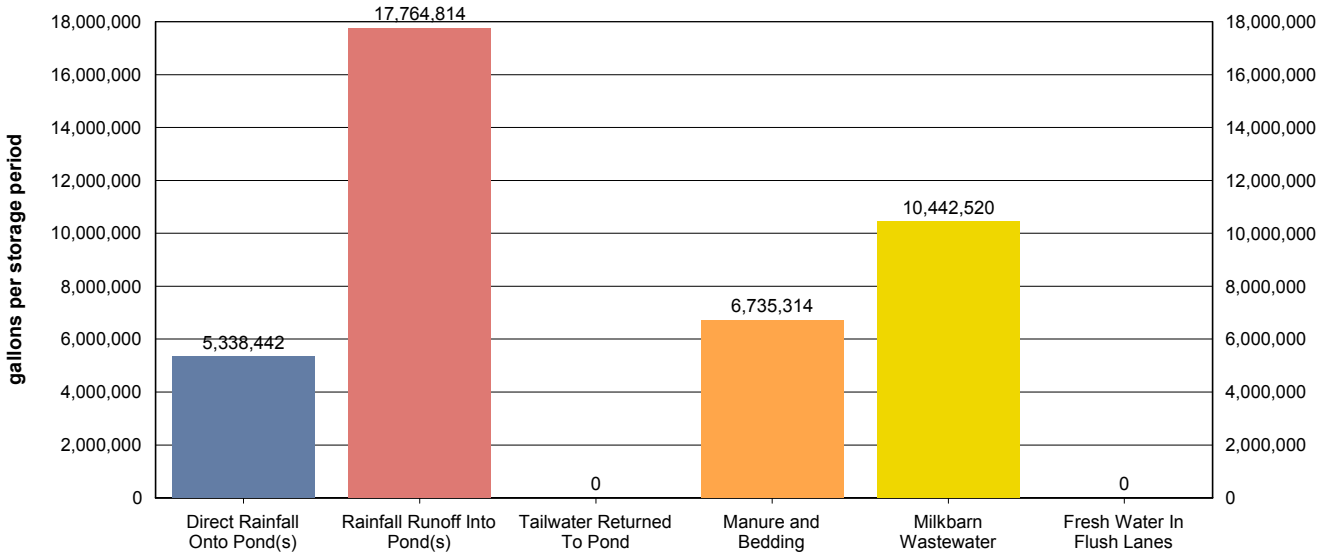


Values shown in chart are approximate values per day.

Total milkbarn wastewater generated daily: 87,021 gallons/day

Total milkbarn wastewater generated per period: 10,442,520 gallons/storage period

B. PROCESS WASTEWATER (NORMAL PRECIPITATION)

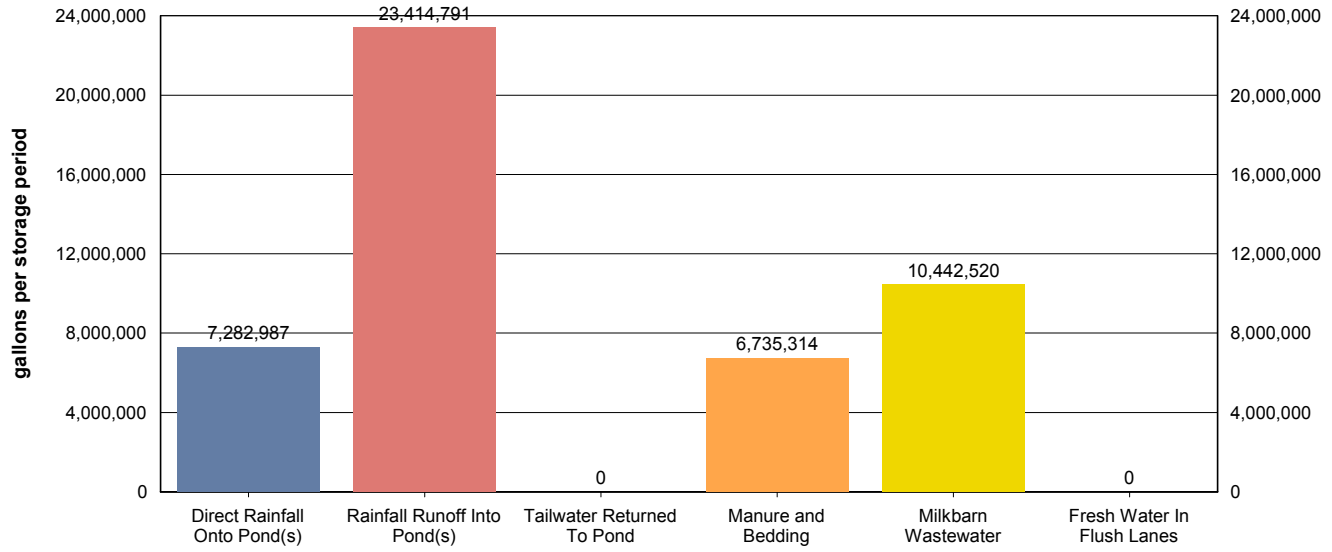


Values shown in chart are approximate values for storage period.

Storage period:	120	days
Total process wastewater generated daily:	335,676	gallons/day
Total process wastewater generated per period:	40,281,090	gallons/storage period
Total process wastewater removed due to evaporation:	4,533,231	gallons/storage period
Total storage capacity required:	35,747,859	gallons
	4,778,794	cu. ft.
Existing storage capacity (adjusted for dead storage loss):	48,343,059	gallons
	6,462,527	cu. ft.

Considering normal precipitation, existing capacity meets estimated storage needs: [X] Yes [ ] No

C. PROCESS WASTEWATER (NORMAL PRECIPITATION WITH 1.5 FACTOR)

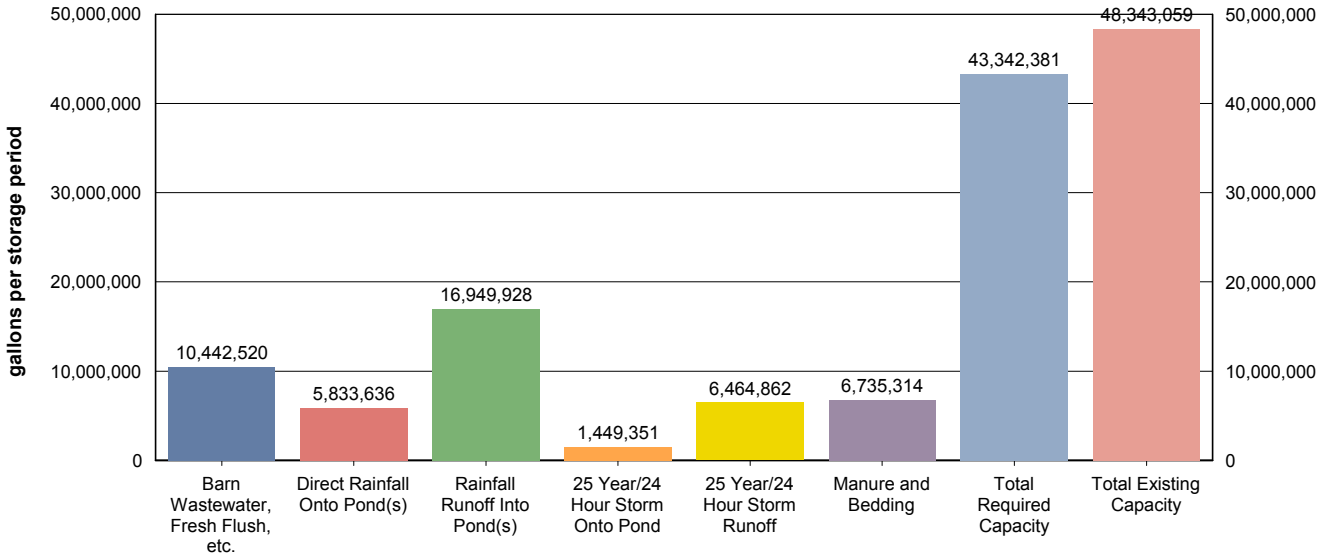


Values shown in chart are approximate values for storage period.

Storage period:	120	days
Total process wastewater generated daily:	398,963	gallons/day
Total process wastewater generated per period:	47,875,612	gallons/storage period
Total process wastewater removed due to evaporation:	4,533,231	gallons/storage period
Total storage capacity required:	43,342,381	gallons
	5,794,034	cu. ft.
Existing storage capacity (adjusted for dead storage loss):	48,343,059	gallons
	6,462,527	cu. ft.

Considering factored precipitation, existing capacity meets estimated storage needs: [X] Yes [ ] No

D. STORAGE VOLUME ASSESSMENT (NORMAL PRECIPITATION WITH 1.5 FACTOR)



Values shown in chart are approximate values for storage period.

Storage period:	120	days
Barn wastewater, fresh flush water, and tailwater:	10,442,520	gallons/storage period
Manure and bedding sent to pond:	6,735,314	gallons/storage period
Precipitation onto pond:	5,833,636	gallons/storage period
Precipitation runoff:	16,949,928	gallons/storage period
25 year/24 hour storm onto pond:	1,449,351	gallons/storage period
25 year/24 hour storm runoff:	6,464,862	gallons/storage period
Residual solids after liquids have been removed (liquid equivalent):	319,217	gallons/storage period
Total process wastewater removed due to evaporation:	4,533,231	gallons/storage period
Total required capacity:	43,342,381	gallons/storage period
Total existing capacity:	48,343,059	gallons/storage period
Existing capacity meets estimated storage needs:	[X] Yes [ ] No	

OPERATION AND MAINTENANCE PLAN

The goal of the Operation and Maintenance Plan is to eliminate discharges of waste or storm water to surface waters from the production area and the protection of underlying soils and ground water.

A. POND MAINTENANCE

i. FREEBOARD MONITORING

1. Freeboard will be monitored monthly from June 1 through September 1 (dry season) and weekly from October 1 through May 31 (wet season). The results will be recorded on a Dairy Production Area Visual Inspection Form.
2. Freeboard will be monitored during and after each significant storm event and the results recorded on a Production Area Significant Storm Event Inspection Form.
3. Ponds will be photographed on the first day of each month. Pond photos will be labeled and maintained with the dairy's monitoring records.

ii. PREPARATION FOR MAINTAINING WINTER STORAGE CAPACITY

1. The retention pond(s) will begin to be lowered to the minimum operating level on or before a designated date each year.
2. The minimum operating level will include the necessary storage volume as identified in Section II.A in Attachment B of the General Order.

iii. OTHER POND MONITORING

1. At the time of each monitoring for freeboard, the pond(s) will be inspected for evidence of excessive odors, mosquito breeding, algae, or equipment damage; and issues with berm integrity, including cracking, slumping, erosion, excess vegetation, animal burrows, and seepage. Any issues identified and corrective actions performed will be recorded on a Dairy Production Area Visual Inspection Form - Other Pond Monitoring.
2. At the time of each monitoring during and after each significant storm event, the ponds will be inspected for evidence of any discharge and issues with berm integrity, including cracking, slumping, erosion, excess vegetation, animal burrows, and seepage. Any issues identified and corrective actions performed will be recorded on a Production Area Significant Storm Event Inspection Form.

iv. SOLIDS REMOVAL PROCEDURES

1. The average thickness of the solids accumulated on the bottom of the pond(s) will be measured on the designated interval using the owner, operator, and/or designer specified procedure.
2. Once solids/sludge on the bottom of the pond(s) reach the owner, operator, and/or designer specified critical thickness, solids/sludge will be removed so that adequate capacity is maintained.
3. When necessary, solids/sludge will be removed using the owner, operator, and/or designer specified methods for protecting any pond liner.

OPERATIONS AND MAINTENANCE PLAN FOR POND: WWS 1

Dry season freeboard monitoring will occur on the 1st of each month.

Wet season freeboard monitoring will occur every Monday of each week.

Process wastewater pond contents will be lowered to the minimum operating level (elevation) of 3.0 feet above the pond invert beginning in May of each year.

Sludge accumulation will be measured annually.

The following method will be used to measure solids/sludge accumulation:

The average thickness of the solids accumulated on the bottom of the WWS 1 will be measured on the designated interval using the owner and/or designer specified procedure.

When solids/sludge accumulate to a thickness of 4.0 feet, the following method will be used to maintain adequate storage capacity while protecting any pond liner:

WWS 1 must be cleaned to a level of no greater then 4 ft. of sludge/solids accumulation entering the 120 day holding period from November through February in order to ensure adequate capacity to meet winter requirements. This
cleaning should be completed with excavation equipment, suction pump or hydraulic cleaning. Whichever method is utilized, the cleaning process must be completed in a manner that ensures that the pond liner is not damaged.

OPERATIONS AND MAINTENANCE PLAN FOR POND: WWS 2

Dry season freeboard monitoring will occur on the 1st of each month.

Wet season freeboard monitoring will occur every Monday of each week.

Process wastewater pond contents will be lowered to the minimum operating level (elevation) of 3.0 feet above the pond invert beginning in May of each year.

Sludge accumulation will be measured annually.

The following method will be used to measure solids/sludge accumulation:

The average thickness of the solids accumulated on the bottom of the WWS 2 will be measured on the designated interval using the owner and/or designer specified procedure.

When solids/sludge accumulate to a thickness of 4.0 feet, the following method will be used to maintain adequate storage capacity while protecting any pond liner:

WWS 2 must be cleaned to a level of no greater then 4 ft. of sludge/solids accumulation entering the 120 day holding period from November through February in order to ensure adequate capacity to meet winter requirements. This
cleaning should be completed with excavation equipment, suction pump or hydraulic cleaning. Whichever method is utilized, the cleaning process must be completed in a manner that ensures that the pond liner is not damaged.

OPERATIONS AND MAINTENANCE PLAN FOR POND: WWS 3

Dry season freeboard monitoring will occur on the 1st of each month.

Wet season freeboard monitoring will occur every Monday of each week.

Process wastewater pond contents will be lowered to the minimum operating level (elevation) of 3.0 feet above the pond invert beginning in May of each year.

Sludge accumulation will be measured annually.

The following method will be used to measure solids/sludge accumulation:

The average thickness of the solids accumulated on the bottom of the WWS 3 will be measured on the designated interval using the owner and/or designer specified procedure.

When solids/sludge accumulate to a thickness of 4.0 feet, the following method will be used to maintain adequate storage capacity while protecting any pond liner:

WWS 3 must be cleaned to a level of no greater then 4 ft. of sludge/solids accumulation entering the 120 day holding period from November through February in order to ensure adequate capacity to meet winter requirements. This
cleaning should be completed with excavation equipment, suction pump or hydraulic cleaning. Whichever method is utilized, the cleaning process must be completed in a manner that ensures that the pond liner is not damaged.

OPERATIONS AND MAINTENANCE PLAN FOR POND: SSB 1

Dry season freeboard monitoring will occur on the 1st of each month.

Wet season freeboard monitoring will occur every Monday of each week.

Process wastewater pond contents will be lowered to the minimum operating level (elevation) of 2.0 feet above the pond invert beginning in May of each year.

Sludge accumulation will be measured monthly.

The following method will be used to measure solids/sludge accumulation:

Settling basin should be checked monthly to determine if removal of solids/sludge is required. The discharge from the settling basin will change color and consistency when the settling basin is "full".

When solids/sludge accumulate to a thickness of 10.0 feet, the following method will be used to maintain adequate storage capacity while protecting any pond liner:

SSB 1 and SSB 2 are cleaned at least annually normally on a rotational basis in either May or October typically through the use of agitation with pump out to slurry wagons for field application. If solids removal is required and cropland is not available for the solids/sludge, the material could be excavated and stockpiled for either Spring or Fall application.

OPERATIONS AND MAINTENANCE PLAN FOR POND: SSB 2

Dry season freeboard monitoring will occur on the 1st of each month.

Wet season freeboard monitoring will occur every Monday of each week.

Process wastewater pond contents will be lowered to the minimum operating level (elevation) of 2.0 feet above the pond invert beginning in October of each year.

Sludge accumulation will be measured monthly.

The following method will be used to measure solids/sludge accumulation:

Settling basin should be checked monthly to determine if removal of solids/sludge is required. The discharge from the settling basin will change color and consistency when the settling basin is "full".

When solids/sludge accumulate to a thickness of 10.0 feet, the following method will be used to maintain adequate storage capacity while protecting any pond liner:

SSB 1 and SSB 2 are cleaned at least annually normally on a rotational basis in either May or October typically through the use of agitation with pump out to slurry wagons for field application. If solids removal is required and cropland is not available for the solids/sludge, the material could be excavated and stockpiled for either Spring or Fall application.

B. RAINFALL COLLECTION SYSTEM MAINTENANCE

i. Annually, rainfall collection systems will be assessed to ensure:

1. Conveyances are free of debris and operating within designer/manufacturer specifications.
2. Components are properly fastened according to designer/manufacturer specifications.
3. All downspouts and related infrastructure are connected to conveyances that divert water away from manured areas.
4. Water from the rainfall collection system(s) is diverted to an appropriate destination.

Buildings with rooftop rainfall collection systems	Quantity	Surface Area (sq. ft.)
Center Freestall	1	104,791
Close Up Barn	1	32,630

Commodity Barn	1	13,344
East and West Freestalls	2	362,756
Half Freestall	1	27,943
Maternity Barn	1	21,345
Milking Parlor	1	45,793
Proposed Dry Cow Barns	3	132,000
Proposed Freestall	1	50,000
Proposed Special Needs Barn 2	1	13,678
Special Needs Barn	1	13,678

Assessment for buildings with rooftop rainfall collection systems will occur on or before: 1st of October

Assessment for other rainfall collections systems will occur on or before: 1st of November

Description of how rainfall collection systems will be assessed:

Gutters and downspouts will be cleaned and repaired as needed to prevent unneeded overland flow of runoff.

C. CORRAL MAINTENANCE

i. Monthly from June 1st through September 30th (dry season) and weekly from October 1st through May 31st (wet season), the perimeter of the corrals and pens will be assessed to ensure that runon and runoff controls such as berms are functioning correctly, and that all water that contacts waste is collected and diverted into the wastewater retention pond (s). Any issues identified and corrective actions performed will be recorded on a Dairy Production Area Visual Inspection Form - Corrals.

ii. The corrals will be assessed by the designated date to determine:

1. Whether manure needs to be removed from the corrals based on the owner, operator, and/or designer specified conditions.

2. Whether there are depressions within the corrals that should be filled/groomed to prevent ponding.

iii. Removal of manure and/or regrading, when necessary, will be completed on or before the designated month/day of each year.

Day of the month dry season assessment will occur: 1st of each month

Day of the week wet season assessment will occur: Monday

Solid manure removal and regrading assessment will occur on or before: 1st of October

Conditions requiring manure removal and/or regrading:

Corral conditions should be assessed by October 1 of each year to allow the owner/operator the opportunity to regrade and add fill material to the corrals. The corrals should be graded to prevent accumulation of wastewater in the corrals for longer than 48 hours. Well maintained/scraped corrals should provide adequate drainage at 1% to 1 1/2% slope. Merced County requires a minimum corral slope of 2%. During the rainy season, corrals must still be groomed or cleaned to provide adequate drainage. Corral manure management must be in accordance with SJVAPCD permit requirements.

Solid manure removal and/or regrading will occur on or before: 1st of November

D. FEED STORAGE AREA MAINTENANCE

i. During the dry season and prior to the wet season, the perimeter of storage areas will be assessed to ensure all runon and runoff controls such as berms are functioning correctly and runoff and leachate from the areas are collected and diverted into the wastewater pond(s). Any issues identified and corrective actions performed will be recorded on a Dairy Production Area Visual Inspection Form - Manure and Feed Storage Areas.

ii. During the wet season, feed storage area(s) will be assessed to determine if there are depressions within any feed storage area that should be filled or repaired to prevent ponding.

iii. Any necessary regrading/resurfacing and berm/conveyance maintenance will be completed on an annual basis.

Day of the month dry season assessment will occur: 1st of each month

Day of the week wet season assessment will occur: Monday

Regrading/resurfacing and berm maintenance assessment will occur on or before: 1st of October

Regrading/resurfacing and berm maintenance completion will occur on or before: 1st of November

E. SOLID MANURE STORAGE AREA MAINTENANCE

i. During the dry season and prior to the wet season, the perimeter of manure storage areas will be assessed to ensure all runon and runoff controls such as berms are functioning correctly and runoff and leachate from the areas are collected and diverted into the wastewater pond(s). Any issues identified and corrective actions performed will be recorded on a Dairy Production Area Visual Inspection Form - Manure and Feed Storage Areas.

ii. During the wet season, manure storage area(s) will be assessed to determine if there are depressions within any manure storage area that should be filled to prevent ponding.

iii. Any necessary regrading/resurfacing and berm/conveyance maintenance will be completed on an annual basis.

Day of the month dry season assessment will occur: 1st of each month

Day of the month wet season assessment will occur: Monday

Regrading/resurfacing and berm maintenance assessment will occur on or before: 1st of October

Regrading/resurfacing and berm maintenance completion will occur on or before: 1st of November

F. ANIMAL HOUSING AND FLUSH WATER CONVEYANCE SYSTEM MAINTENANCE

i. A map will be attached that identifies critical points for monitoring the animal housing and flush water conveyance system to verify that water is being managed as identified in this Waste Management Plan. These points will be maintained at owner, operator, and/or designer specified intervals.

Animal housing area assessment will occur on or before: 1st of October

Animal housing drainage system maintenance will occur on or before: 1st of November

Animal housing area drainage system assessment and maintenance methods:

Debris is removed from flush lanes, drains, and corral drains as needed. Pumps are monitored daily. Corrals are regraded and soil is added as needed to insure drainage. The critical animal housing/flush conveyance points to monitor are all drains. These drains should be checked before every storm and during each flush event to insure that drain/conveyance clogging has not occurred.

G. MORTALITY MANAGEMENT

i. Dead animals will be stored, removed, and disposed of properly.

Rendering company or landfill name: Darling International

Rendering company or landfill telephone number: (559) 268-5325

H. ANIMALS AND SURFACE WATER MANAGEMENT

i. A system will be in place, monitored, and maintained to prevent animals from entering any surface waters when a stream or other surface water crosses or adjoins the corral(s).

Does a stream or any other surface water cross or adjoin the corrals? [ ] Yes [X] No

I. MONITORING SALT IN ANIMAL RATIONS

i. The combined quantity of minerals as salt in animal drinking water and feed rations will be reviewed by a qualified nutritionist on a routine basis to verify that minerals are limited to the amount required to maintain animal health and optimum production . As feed rations change, mineral content may change.

Assessment interval: Annually

J. CHEMICAL MANAGEMENT

i. Chemicals and other contaminants handled at the facility will not be disposed of in any manure or process wastewater, storm water storage or treatment system unless specifically designed to treat such chemicals and other contaminants.

Chemical Name	Quantity	Units	Frequency	Usage Area	Destination (Used Chemical / Container)	Disposal Company		Collection Frequency
						Name	Phone	
Iodine 0.5%	22,000	gallons	year	Milking Parlor	Empty containers returned to WS West	WS West	(559) 487-5074	routine
Acid	1,980	gallons	year	Milking Parlor	Empty containers returned to WS West	WS West	(559) 487-5074	routine
Chlorinated Soap	5,280	gallons	year	Milking Parlor	Empty containers returned to WS West	WS West	(559) 487-5074	routine
Round Up	10	gallons	year	General spot applications around dairy roadways, ponds, corral perimeters, etc.	Recycled through Helena Chemical Co.	Helena Chemical	(209) 383-1090	as needed
Acid	1,643	gallons	year	Milkbarn	Picked up by distributor			
Iodine	30,295	gallons	year	Milkbarn	Picked up by distributor			
Chlorinated Soap	5,183	gallons	year	Milkbarn	Picked up by distributor			
Hand Soap	36	gallons	year	Milkbarn	Picked up by distributor			

REQUIRED ATTACHMENTS

The following list, based upon user selections and data entries, describes the minimum required attachments that must be submitted with the Waste Management Plan for the reporting schedule of 'July 1, 2010'.

A. SITE MAP(S)

Provide a site map (or maps) of appropriate scale to show property boundaries and the location of the features of the production area including the following in sufficient detail: structures used for animal housing, milk parlor, and other buildings; corrals and ponds; solids separation facilities (settling basins or mechanical separators); other areas where animal wastes are deposited or stored; feed storage areas; drainage flow directions and nearby surface waters; all water supply wells (domestic, irrigation, and barn wells) and groundwater monitoring wells.

Production area map reference number: Figure 2

Provide a site map (or maps) of appropriate scale to show property boundaries and the location of the features of all land application areas (land under the Discharger's control, whether it is owned, rented, or leased, to which manure or process wastewater from the production area is or may be applied for nutrient recycling) including the following in sufficient detail: a field identification system (Assessor's Parcel Number; field by name or number; total acreage of each field; crops grown; indication if each field is owned, leased, or used pursuant to a formal agreement); indication of what type of waste is applied (solid manure only, wastewater only, or both solid manure and wastewater); drainage flow direction in each field, nearby surface waters, and storm water discharge points; tailwater and storm water drainage controls; subsurface (tile) drainage systems (including discharge points and lateral extent); irrigation supply wells and groundwater monitoring wells; sampling locations for discharges of storm water and tailwater to surface water from the field.

Application area map reference number: Figure 3 & Figure 4

Provide a site map (or maps) of appropriate scale to show property boundaries and the location of all cropland (land that is part of the dairy but not used for dairy waste application) including the following in sufficient detail: Assessor's Parcel Number, total acreage, crops grown, and information on who owns or leases the field. The Waste Management Plan shall indicate if such cropland is covered under the Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands (Order No. R5-2006-0053 for Coalition Group or Order No. R5-2006-0054 for Individual Discharger, or updates thereto).

Non-application area map reference number: Figure 4

Provide a site map (or maps) of appropriate scale to show property boundaries and the location of all off-property domestic wells within 600 feet of the production area or land application area(s) associated with the dairy and the location of all municipal supply wells within 1,500 feet of the production area or land application area(s) associated with the dairy.

Well area map reference number: Figure 2 & Figure 4

Provide a site map (or maps) of appropriate scale to show property boundaries and a vicinity map, north arrow and the date the map was prepared. The map shall be drawn on a published base map (e.g., a topographic map or aerial photo) using an appropriate scale that shows sufficient details of all facilities.

Vicinity map reference number: Figure 1

B. PROCESS WASTEWATER MAP(S)

Provide a site map (or maps) of appropriate scale to show property boundaries and the location of the features of the production area including the following in sufficient detail: process wastewater conveyance structures, discharge points, and discharge /mixing points with irrigation water supplies; pumping facilities and flow meter locations; upstream diversion structures, drainage ditches and canals, culverts, drainage controls (berms/levees, etc.), and drainage easements; and any additional components of the waste handling and storage system.

Production infrastructure system area map reference number: Figure 2

Provide a site map (or maps) of appropriate scale to show property boundaries and the location of the features of all land application areas (land under the Discharger's control, whether it is owned, rented, or leased, to which manure or process wastewater from the production area is or may be applied for nutrient recycling) including the following in sufficient detail: process wastewater conveyance structures, discharge points and discharge mixing points with irrigation water supplies; pumping facilities ; flow meter locations; drainage ditches and canals, culverts, drainage controls (berms, levees, etc.), and drainage easements.

Land application infrastructure system area map reference number: Figures 2-4

C. EXCESS PRECIPITATION CONTINGENCY REPORT

There were no attachment references entered or required for this attachment section.

D. OPERATION AND MAINTENANCE PLAN

Attach a map that identifies critical points for monitoring the system to verify that water is being managed as identified in this Waste Management Plan (see Attachment B, Pg B-7 V.F, V.G, and V.H for additional requirements).

Animal housing assessment map reference number: Figure 2

E. FLOOD PROTECTION / INUNDATION REPORT

Provide a published flood zone map that shows the facility is outside the relevant flood zones.

Flood zone map and/or document reference number: 06047C0470G

F. BACKFLOW PROTECTION

Attach documentation from a trained professional (i.e. a person certified by the American Backflow Prevention Association, an inspector from a state or local governmental agency who has experience and/or training in backflow prevention, or a consultant with such experience and/or training), as specified in Required Reports and Notices H.1 of Waste Discharge Requirements General Order No. R5-2007-0035, that there are no cross-connections that would allow the backflow of wastewater into a water supply well, irrigation well, or surface water as identified on the Site Map.

Backflow documentation reference number: Backflow Certificate

Waste Management Plan Report
General Order No. R5-2007-0035, Attachment B
July 1, 2010 deadline

CERTIFICATION

A. DAIRY FACILITY INFORMATION

Name of dairy or business operating the dairy: Hillcrest Dairy LLC

Physical address of dairy:

1901 N Hayden RD	Le Grand	Merced	95333
Number and Street	City	County	Zip Code

Street and nearest cross street (if no address):

B. DOCUMENTATION OF QUALIFICATIONS AND PLAN DEVELOPMENT

I have reviewed the portion of the waste management plan that is related to storage capacity facility and design specifications in accordance with Item II, Attachment B of the Waste Discharge Requirements General Order for Existing Milk Cow Dairies - Order No. R5-2007-0035 and certify that this plan was prepared by, or under the responsible charge of, and certified by a civil engineer who is registered pursuant to California law or other person as may be permitted under the provisions of the California Business and Professions Code to assume responsible charge of such work.

Storage capacity is:

Insufficient

☐ Retrofitting Plan/Schedule/Design Criteria attached in accordance with Attachment B, II.B. 1-5 and Attachment B, II. C.

Sufficient

☒ Certification 1 - Certified in accordance with Attachment B, II. A. 1-8. (no contingency plan)

☐ Certification 2 - Certified in accordance with Attachment B, II. A. 1-8, II. C. (with contingency plan attached)

CIVIL ENGINEER'S WET STAMP

SIGNATURE OF CIVIL ENGINEER

8/14/20
DATE

Michael Mitchell
PRINT OR TYPE NAME

18836 E Clausen RD; Turlock, CA 95380
MAILING ADDRESS

(209) 664-1067
PHONE NUMBER

C. OWNER AND/OR OPERATOR 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 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.

SIGNATURE OF OWNER	SIGNATURE OF OPERATOR
Edward Hoekstra	
PRINT OR TYPE NAME	PRINT OR TYPE NAME
DATE	DATE