NUTRIENT MANAGEMENT PLAN

K&R Blount Dairy
724 Ruble Road
Crows Landing, Ca. 95313

Prepared By:

2857 Geer Road, Suite A
Turlock, California 95382

EXHIBIT E

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: K & R Blount Dairy

Physical address of dairy:

724 Ruble RD	Crows Landing	Stanislaus	95313
Number and Street	City	County	Zip Code

Street and nearest cross street (if no address):

Date facility was originally placed in operation: 01/01/1958

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

County Assessor Parcel Number(s) for dairy facility:

0058-0005-0014-0000

B. OPERATOR NAME: Blount, Kevin Telephone no.: (209) 668-7129 (Landline) (209) 678-2207 (Cellular)

P.O. Box 339	Turlock	CA	95381
Mailing Address Number and Street	City	State	Zip Code

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

OPERATOR NAME: Blount, Ronda Telephone no.: (209) 668-7129 (Landline) (209) 678-2207 (Cellular)

P.O. Box 339	Turlock	CA	95381
Mailing Address Number and Street	City	State	Zip Code

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

C. LEGAL OWNER NAME: Blount, Kevin Telephone no.: (209) 668-7129 (Landline) (209) 678-2207 (Cellular)

P.O. Box 339	Turlock	CA	95381
Mailing Address Number and Street	City	State	Zip Code

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

LEGAL OWNER NAME: Blount, Ronda Telephone no.: (209) 668-7129 (Landline) (209) 678-2207 (Cellular)

P.O. Box 339	Turlock	CA	95381
Mailing Address Number and Street	City	State	Zip Code

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

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

Title: TSP

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

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:

1,440 *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	1,240	200	400	100	0	0
Maximum count	1,240	200	400	100	0	0
Avg live weight (lbs)	950	1,000	600	450		
Daily hours on flush	20	4	4	4	0	0

Predominant milk cow breed: Jersey

Average milk production: 55 *pounds per cow per day*

B. IRRIGATION SOURCES

Irrigation Source Name	Type	Nitrogen (mg/L)	Phosphorus (mg/L)	Potassium (mg/L)	Discharge Rate
TID	Surface water (canal, river)	4.00			15 *cfs*

C. NUTRIENT IMPORTS

No nutrient imports entered.

D. NUTRIENT EXPORTS

Nutrient Type/Name	Quantity	Moisture	Nitrogen	Phosphorus (as P2O5)	Potassium (as K2O)
Solid Manure	6,700.00 *ton*	36.4%	1.460%	0.500%	1.320%
Solid Manure	6,700.00 *ton*	36.4%	1.460%	0.500%	1.320%

Total nitrogen exported: 248,854.08 *lbs*

Total phosphorus exported: 37,242.89 *lbs*

Total potassium exported: 186,742.83 *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: 0058-0005-0012-0000
Legal owner of parcel: Owned by Dairy

ASSESSOR PARCEL NUMBER: 0058-0005-0014-0000
Legal owner of parcel: Owned by Dairy

ASSESSOR PARCEL NUMBER: 0058-0005-0015-0000
Legal owner of parcel: Owned by Dairy

ASSESSOR PARCEL NUMBER: 0058-0007-0014-0000
Legal owner of parcel: Owned by Dairy

ASSESSOR PARCEL NUMBER: 0058-0022-0013-0000
Legal owner of parcel: Owned by Dairy

B. FIELD NAME: F1

Cropable acres: 8

Predominant soil type: Sandy 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 retention pond

Crops grown and rotation:

Crop Type	Plant Date	Harvest Date	Acres Planted
Oats, silage-soft dough	Late October	Middle April	8
Corn, silage	Middle May	Middle September	8

FIELD NAME: F2

Cropable acres: 10

Predominant soil type: Sandy 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: Bermed

Crops grown and rotation:

Crop Type	Plant Date	Harvest Date	Acres Planted
Oats, silage-soft dough	Late October	Middle April	10
Corn, silage	Middle May	Middle September	10

FIELD NAME: F3

Cropable acres: 41

Predominant soil type: Sandy 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 retention pond

Crops grown and rotation:

Crop Type	Plant Date	Harvest Date	Acres Planted
Oats, silage-soft dough	Late October	Middle April	41
Corn, silage	Middle May	Middle September	41

FIELD NAME: F5

Cropable acres: 29

Predominant soil type: Sandy 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 retention pond

Crops grown and rotation:

Crop Type	Plant Date	Harvest Date	Acres Planted
Oats, silage-soft dough	Late October	Middle April	29
Corn, silage	Middle May	Middle September	29

FIELD NAME: F6

Cropable acres: 14

Predominant soil type: Sandy 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 retention pond

Crops grown and rotation:

Crop Type	Plant Date	Harvest Date	Acres Planted
Oats, silage-soft dough	Late October	Middle April	14
Corn, silage	Middle May	Middle September	14

FIELD NAME: F7

Cropable acres: 69

Predominant soil type: Sandy 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: Bermed

Crops grown and rotation:

Crop Type	Plant Date	Harvest Date	Acres Planted
Oats, silage-soft dough	Late October	Middle April	69
Corn, silage	Middle May	Middle September	69

FIELD NAME: F8

Cropable acres: 10

Predominant soil type: Sandy 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: Bermed

Crops grown and rotation:

Crop Type	Plant Date	Harvest Date	Acres Planted
Oats, silage-soft dough	Late October	Middle April	10
Corn, silage	Middle May	Middle September	10

C. LAND APPLICATION AREA FIELDS AND PARCELS

Field name	Cropable acres	Total harvests	Parcel number
F1	8	2	0058-0022-00130000
F2	10	2	0058-0005-00120000
F3	41	2	0058-0005-00140000
F5	29	2	0058-0005-00150000
F6	14	2	0058-0005-00150000
F7	69	2	0058-0022-00130000
F8	10	2	0058-0007-00140000
Land application area totals	181	14	

NUTRIENT BUDGET

A. NUTRIENT BUDGET FOR CROP: F1 / Oats, silage-soft dough

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 (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	1	84.0 90%	9.0 80%	90.0 80%	89.1

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID	5.1	0.0	0.0	3.0
	5.1	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	105.0 90%	11.0 80%	113.0 80%	110.1

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID	5.1	0.0	0.0	3.0
	5.1	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	10.1	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	189.0	20.0	203.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	206.1	20.0	203.0
Potential crop nutrient removal	150.0	24.0	124.5
Nutrient balance	56.1	-4.0	78.5
Applied to removal ratio	1.37	0.83	1.63

Fresh water applied: 0.93 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: F1 / Corn, silage

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): F1 / 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 (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	1	105.0 90%	11.0 80%	113.0 80%	110.1

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID	5.1	0.0	0.0	3.0
	5.1	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	5	0.0 0%	0.0 0%	0.0 0%	25.3

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID	5.1	0.0	0.0	3.0
	5.1	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	2	70.0 90%	7.0 80%	85.0 80%	150.1

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID	5.1	0.0	0.0	3.0
	5.1	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	40.5	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	245.0	25.0	283.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	292.5	25.0	283.0
Potential crop nutrient removal	216.0	40.5	178.2
Nutrient balance	76.5	-15.5	104.8
Applied to removal ratio	1.35	0.62	1.59

Fresh water applied: 3.72 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: F2 / Oats, silage-soft dough

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): F2 / Oats, silage-soft dough

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 (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	1	84.0 90%	9.0 80%	90.0 80%	88.7

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID	4.7	0.0	0.0	3.5
	4.7	0.0	0.0	

In season irrigation (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	1	105.0 90%	11.0 80%	113.0 80%	109.7

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID	4.7	0.0	0.0	3.5
	4.7	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	9.4	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	0.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	189.0	20.0	203.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	205.4	20.0	203.0
Potential crop nutrient removal	150.0	24.0	124.5
Nutrient balance	55.4	-4.0	78.5
Applied to removal ratio	1.37	0.83	1.63

Fresh water applied: 0.87 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: F2 / 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 (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	1	105.0 90%	11.0 80%	113.0 80%	111.1

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID	6.1	0.0	0.0	4.5
	6.1	0.0	0.0	

NUTRIENT BUDGET FOR CROP (CONTINUED): F2 / 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	5	0.0 0%	0.0 0%	0.0 0%	23.6

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID	4.7	0.0	0.0	3.5
	4.7	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	2	70.0 90%	7.0 80%	85.0 80%	148.1

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID	4.0	0.0	0.0	3.0
	4.0	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	37.8	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	0.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	245.0	25.0	283.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	289.8	25.0	283.0
Potential crop nutrient removal	216.0	40.5	178.2
Nutrient balance	73.8	-15.5	104.8
Applied to removal ratio	1.34	0.62	1.59

Fresh water applied: 3.47 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: F3 / Oats, silage-soft dough

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 (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	1	84.0 90%	9.0 80%	90.0 80%	88.6

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID	4.6	0.0	0.0	14.0
	4.6	0.0	0.0	

NUTRIENT BUDGET FOR CROP (CONTINUED): F3 / Oats, 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	105.0 90%	11.0 80%	113.0 80%	109.6

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID	4.6	0.0	0.0	14.0
	4.6	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	9.2	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	189.0	20.0	203.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	205.2	20.0	203.0
Potential crop nutrient removal	150.0	24.0	124.5
Nutrient balance	55.2	-4.0	78.5
Applied to removal ratio	1.37	0.83	1.63

Fresh water applied: 0.85 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: F3 / 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 (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	1	105.0 90%	11.0 80%	113.0 80%	110.3

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID	5.3	0.0	0.0	16.0
	5.3	0.0	0.0	

In season irrigation (no fertilizer) *Nutrient source:* Water only *Application method:* Surface	5	0.0 0%	0.0 0%	0.0 0%	23.0

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID	4.6	0.0	0.0	14.0
	4.6	0.0	0.0	

NUTRIENT BUDGET FOR CROP (CONTINUED): F3 / 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 (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	2	70.0 90%	7.0 80%	85.0 80%	149.2

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID	4.6	0.0	0.0	14.0
	4.6	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	37.5	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	245.0	25.0	283.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	289.5	25.0	283.0
Potential crop nutrient removal	216.0	40.5	178.2
Nutrient balance	73.5	-15.5	104.8
Applied to removal ratio	1.34	0.62	1.59

Fresh water applied: 3.45 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: F5 / Oats, silage-soft dough

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 (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	1	84.0 90%	9.0 80%	90.0 80%	88.6

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID	4.6	0.0	0.0	10.0
	4.6	0.0	0.0	

In season irrigation (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	1	105.0 90%	11.0 80%	113.0 80%	109.6

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID	4.6	0.0	0.0	10.0
	4.6	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	9.3	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	189.0	20.0	203.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	205.3	20.0	203.0
Potential crop nutrient removal	150.0	24.0	124.5
Nutrient balance	55.3	-4.0	78.5
Applied to removal ratio	1.37	0.83	1.63

Fresh water applied: 0.85 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: F5 / 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 (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	1	105.0 90%	11.0 80%	113.0 80%	110.6

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID	5.6	0.0	0.0	12.0
	5.6	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	5	0.0 0%	0.0 0%	0.0 0%	23.2

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID	4.6	0.0	0.0	10.0
	4.6	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	2	70.0 90%	7.0 80%	85.0 80%	149.3

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID	4.6	0.0	0.0	10.0
	4.6	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	38.1	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	245.0	25.0	283.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	290.1	25.0	283.0
Potential crop nutrient removal	216.0	40.5	178.2
Nutrient balance	74.1	-15.5	104.8
Applied to removal ratio	1.34	0.62	1.59

Fresh water applied: 3.51 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: F6 / Oats, silage-soft dough

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 (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	1	84.0 90%	9.0 80%	90.0 80%	88.3
In season irrigation (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	1	105.0 90%	11.0 80%	113.0 80%	109.3

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID	4.3	0.0	0.0	4.5
	4.3	0.0	0.0	

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID	4.3	0.0	0.0	4.5
	4.3	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	8.7	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	189.0	20.0	203.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	204.7	20.0	203.0
Potential crop nutrient removal	150.0	24.0	124.5

Nutrient balance	54.7	-4.0	78.5
Applied to removal ratio	1.36	0.83	1.63

Fresh water applied: 0.80 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: F6 / 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 (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	1	105.0 90%	11.0 80%	113.0 80%	110.8

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID	5.8	0.0	0.0	6.0
	5.8	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	5	0.0 0%	0.0 0%	0.0 0%	21.7

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID	4.3	0.0	0.0	4.5
	4.3	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	2	70.0 90%	7.0 80%	85.0 80%	148.7

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID	4.3	0.0	0.0	4.5
	4.3	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	36.1	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	245.0	25.0	283.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	288.1	25.0	283.0
Potential crop nutrient removal	216.0	40.5	178.2
Nutrient balance	72.1	-15.5	104.8
Applied to removal ratio	1.33	0.62	1.59

Fresh water applied: 3.32 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: F7 / Oats, silage-soft dough

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 (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	1	84.0 90%	9.0 80%	90.0 80%	88.7

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID	4.7	0.0	0.0	24.0
	4.7	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	105.0 90%	11.0 80%	113.0 80%	109.7

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID	4.7	0.0	0.0	24.0
	4.7	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	9.4	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	0.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	189.0	20.0	203.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	205.4	20.0	203.0
Potential crop nutrient removal	150.0	24.0	124.5
Nutrient balance	55.4	-4.0	78.5
Applied to removal ratio	1.37	0.83	1.63

Fresh water applied: 0.86 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: F7 / 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 (with fertilizer) *Nutrient source:* Retention pond (lagoon) *Application method:* Pipeline	1	105.0 90%	11.0 80%	113.0 80%	111.3

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID	6.3	0.0	0.0	32.0
	6.3	0.0	0.0	

NUTRIENT BUDGET FOR CROP (CONTINUED): F7 / 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)	5	0.0	0.0	0.0	23.5
Nutrient source: Water only		0%	0%	0%	
Application method: Surface					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID	4.7	0.0	0.0	24.0
	4.7	0.0	0.0	

In season irrigation (with fertilizer)	2	70.0	7.0	85.0	149.4
Nutrient source: Retention pond (lagoon)		90%	80%	80%	
Application method: Pipeline					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID	4.7	0.0	0.0	24.0
	4.7	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	39.1	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	245.0	25.0	283.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	291.1	25.0	283.0
Potential crop nutrient removal	216.0	40.5	178.2
Nutrient balance	75.1	-15.5	104.8
Applied to removal ratio	1.35	0.62	1.59

Fresh water applied: 3.59 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: F8 / Oats, silage-soft dough

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
Dry manure	1	186.0	64.0	168.0	186.0
Nutrient source: From dairy		50%	80%	80%	
Application method: Broadcast/incorporate					

NUTRIENT BUDGET FOR CROP (CONTINUED): F8 / Oats, silage-soft dough

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)	1	0.0	0.0	0.0	4.7
Nutrient source: Water only		0%	0%	0%	
Application method: Surface					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID	4.7	0.0	0.0	3.5
	4.7	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)	1	0.0	0.0	0.0	4.7
Nutrient source: Water only		0%	0%	0%	
Application method: Surface					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID	4.7	0.0	0.0	3.5
	4.7	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	9.4	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	0.0	0.0	0.0
Dry manure	186.0	64.0	168.0
Liquid manure	0.0	0.0	0.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	202.4	64.0	168.0
Potential crop nutrient removal	150.0	24.0	124.5
Nutrient balance	52.4	40.0	43.5
Applied to removal ratio	1.35	2.67	1.35

Fresh water applied: 0.87 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: F8 / 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	260.0	90.0	235.0	260.0
Nutrient source: From dairy		50%	80%	80%	
Application method: Broadcast/incorporate					

NUTRIENT BUDGET FOR CROP (CONTINUED): F8 / 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%	6.1

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID	6.1	0.0	0.0	4.5
	6.1	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%	28.3

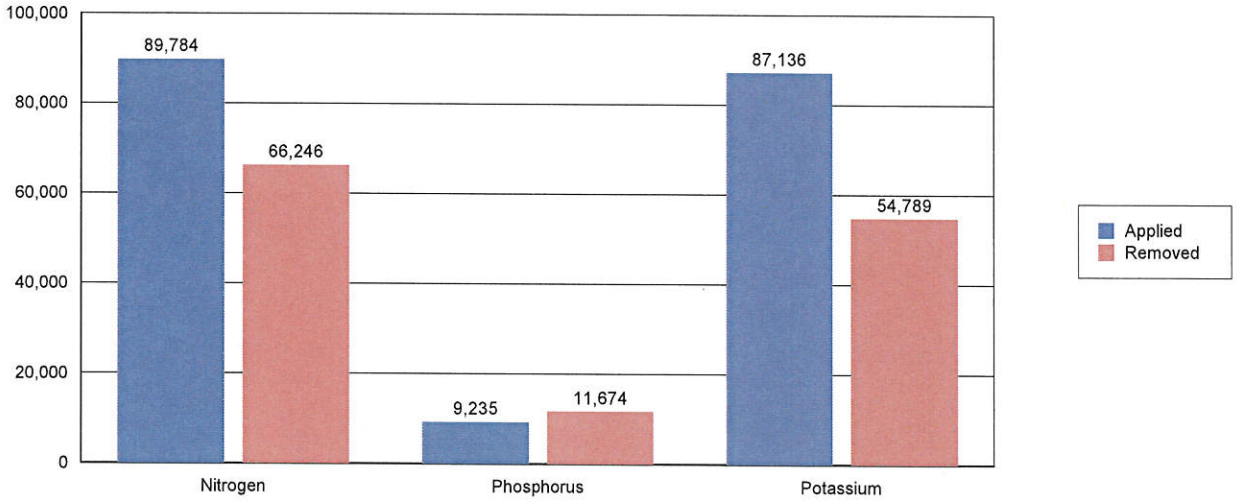
Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID	4.7	0.0	0.0	3.5
	4.7	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	34.4	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	0.0	0.0	0.0
Dry manure	260.0	90.0	235.0
Liquid manure	0.0	0.0	0.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	301.4	90.0	235.0
Potential crop nutrient removal	216.0	40.5	178.2
Nutrient balance	85.4	49.5	56.8
Applied to removal ratio	1.40	2.22	1.32

Fresh water applied: 3.16 *feet* Total harvests: 1

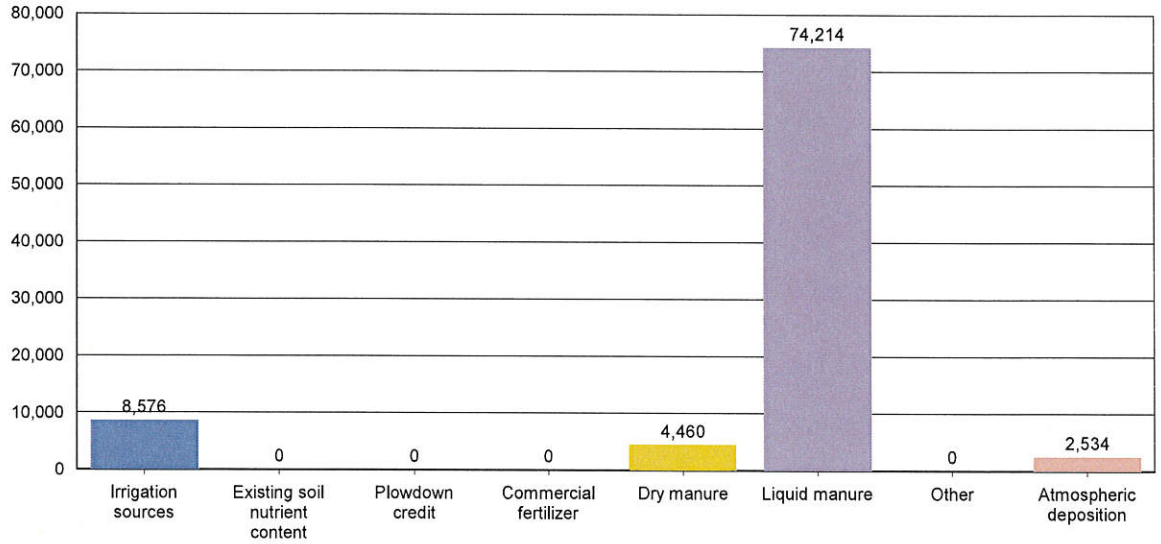
NUTRIENT APPLICATIONS, POTENTIAL REMOVAL, AND BALANCE

A. POUNDS OF NUTRIENT APPLIED VS. CROP REMOVAL POTENTIAL



	Total N (lbs)	Total P (lbs)	Total K (lbs)
Irrigation sources	8,575.7	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	4,460.0	1,540.0	4,030.0
Liquid manure	74,214.0	7,695.0	83,106.0
Other	0.0	0.0	0.0
Atmospheric deposition	2,534.0		
Nutrients applied to all crops	89,783.7	9,235.0	87,136.0
Potential crop nutrient removal	66,246.0	11,674.5	54,788.7
Nutrient balance	23,537.7	-2,439.5	32,347.3
Applied to removal ratio	1.36	0.79	1.59

B. POUNDS OF NITROGEN APPLIED BY NUTRIENT SOURCE



	Total N (lbs)	Total P (lbs)	Total K (lbs)
Irrigation sources	8,575.7	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	4,460.0	1,540.0	4,030.0
Liquid manure	74,214.0	7,695.0	83,106.0
Other	0.0	0.0	0.0
Atmospheric deposition	2,534.0		
Nutrients applied to all crops	89,783.7	9,235.0	87,136.0
Potential crop nutrient removal	66,246.0	11,674.5	54,788.7
Nutrient balance	23,537.7	-2,439.5	32,347.3
Applied to removal ratio	1.36	0.79	1.59

NUTRIENT BALANCE

A. WHOLE FARM BALANCE

	Total N (lbs)	Total P (lbs)	Total K (lbs)
Nutrients in storage from herd*			
Daily gross	1,291.2	213.7	617.1
Annual gross	471,280.4	78,004.6	225,251.2
Net to pond storage after ammonia losses (30% loss applied)	235,736.9	56,438.5	187,709.4
Net to drylot storage after ammonia losses (30% loss applied)	94,159.4	21,566.1	137,113.9
Net in storage (30% loss applied)	329,896.3	78,004.6	324,823.2
Irrigation sources	8,575.7	0.0	0.0
Atmospheric deposition	2,534.0		
Imports	0.0	0.0	0.0
Exports	248,854.1	37,242.9	186,742.8
Potential crop nutrient removal	66,246.0	11,674.5	54,788.7
Nutrient balance	25,905.9	29,087.2	83,291.7
Nutrient balance ratio	1.39	3.49	2.52

* Potassium excretion from milk cows and dry cows only.

SAMPLING AND ANALYSIS PLAN

A. MANURE SAMPLING AND ANALYSIS PLAN

Frequency	Sampling Methods	Source	Minimum data collection requirements	
			Field Analytes	Lab Analytes
Once every 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 & Separator	None required	General minerals, including: calcium, magnesium, sodium, sulfate, chloride Fixed solids (ash)
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 & Separator	None required	Total nitrogen, total phosphorus, total potassium, and percent moisture
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 & Separator	Date applied and total weight (tons) applied	Percent moisture

A. MANURE SAMPLING AND ANALYSIS PLAN (CONTINUED)

Frequency	Sampling Methods	Source	Minimum data collection requirements	
			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 & Separator	Date exported and total weight (tons) exported	Percent moisture

A. MANURE SAMPLING AND ANALYSIS PLAN (CONTINUED)

Frequency	Sampling Methods	Source	Minimum data collection requirements	
			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 & Separator	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

Frequency	Sampling Methods	Source	Minimum data collection requirements	
			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.	WWS1 & WWS2	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.	WWS1 & WWS2	Date applied and electrical conductivity	Nitrate-nitrogen (only when 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.	WWS1 & WWS2	None required	General minerals, including: calcium, magnesium, sodium, bicarbonate, carbonate, sulfate, and chloride

B. PROCESS WASTEWATER SAMPLING AND ANALYSIS PLAN (CONTINUED)

Frequency	Sampling Methods	Source	Minimum data collection requirements	
			Field Analytes	Lab Analytes
Annually	A composite or grab sample prior to blending with irrigation water per the "Approved Sampling Procedures for Nutrient and Groundwater Monitoring at Existing Milk Cow Dairies" will be collected.	WWS1 & WWS2	None required	pH, total dissolved solids, electrical conductivity, nitrate-nitrogen, ammonion-nitrogen, total Kjeldahl nitrogen, total phosphorus, and total potassium

C. SOIL SAMPLING AND ANALYSIS PLAN

Frequency	Sampling Methods	Source	Minimum data collection requirements	
			Field Analytes	Lab Analytes
Once every five years for 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.	F1-3 & F5-8	None required	Soluble phosphorus

D. PLANT TISSUE SAMPLING AND ANALYSIS PLAN

Frequency	Sampling Methods	Source	Minimum data collection requirements	
			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.	F1-3 & F5-8	Date harvested and total weight (tons) of harvested material removed from each land application area	Percent wet weight of harvested plant removed Laboratory analyses for total nitrogen, total phosphorus, total potassium (expressed on a dry weight basis), fixed solids (ash), and percent moisture

D. PLANT TISSUE SAMPLING AND ANALYSIS PLAN (CONTINUED)

Frequency	Sampling Methods	Source	Minimum data collection requirements	
			Field Analytes	Lab Analytes
Mid-season, as necessary to assess need for additional nitrogen fertilizer during the growing season (only required if Discharger wants to add fertilizer in excess of 1.4 times the nitrogen expected to be removed by the harvested portion of the crop)	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.	F1-3 & F5-8	None required	Total nitrogen, expressed on a dry weight basis

E. IRRIGATION WATER SAMPLING AND ANALYSIS PLAN

Frequency	Sampling Methods	Source	Minimum data collection requirements	
			Field Analytes	Lab Analytes
Each fresh water irrigation event for each land application area	TID Canal - flow rate multiplied by runtime	TID Canal	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.	TID Canal	None required	Electrical conductivity, total dissolved solids, and total nitrogen

F. GROUNDWATER MONITORING SAMPLING AND ANALYSIS PLAN

Frequency	Sampling Methods	Source	Minimum data collection requirements	
			Field Analytes	Lab Analytes

F. GROUNDWATER MONITORING SAMPLING AND ANALYSIS PLAN (CONTINUED)

Frequency	Sampling Methods	Source	Minimum data collection requirements	
			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 domestics 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.
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 domestic wells	None required	General minerals, including: calcium, magnesium, sodium, bicarbonate, carbonate, sulfate, chloride Total dissolved solids

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: 05/19/2014
Person who approved the final NMP: Ramos, Joe *See above for contact information.*
Date of NMP implementation: 10/01/2014

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

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 2

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

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: K & R Blount Dairy

Physical address of dairy:

724 Ruble RD	Crows Landing	Stanislaus	95313
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.

TSP
TITLE/QUALIFICATIONS OF CERTIFIED NUTRIENT MANAGEMENT SPECIALIST

SIGNATURE OF TRAINED PROFESSIONAL — DATE: 5/21/14

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
Kevin Blount	
PRINT OR TYPE NAME	PRINT OR TYPE NAME
5/21/14	
DATE	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: K & R Blount Dairy

Physical address of dairy:

724 Ruble RD	Crows Landing	Stanislaus	95313
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.

TSP
TITLE/QUALIFICATIONS OF CERTIFIED NUTRIENT MANAGEMENT SPECIALIST

SIGNATURE OF TRAINED PROFESSIONAL — 5/21/14 DATE

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
Kevin Blount	
PRINT OR TYPE NAME	PRINT OR TYPE NAME
5/21/14	
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: K & R Blount Dairy

724 Ruble RD	Crows Landing	Stanislaus	95313
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: Blount, Kevin Telephone no.: (209) 668-7129 (Landline) (209) 678-2207 (Cellular)

P.O. Box 339	Turlock	CA	95381
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.

Kevin Blount

SIGNATURE OF OWNER OF FACILITY

SIGNATURE OF OPERATOR OF FACILITY

Kevin Blount

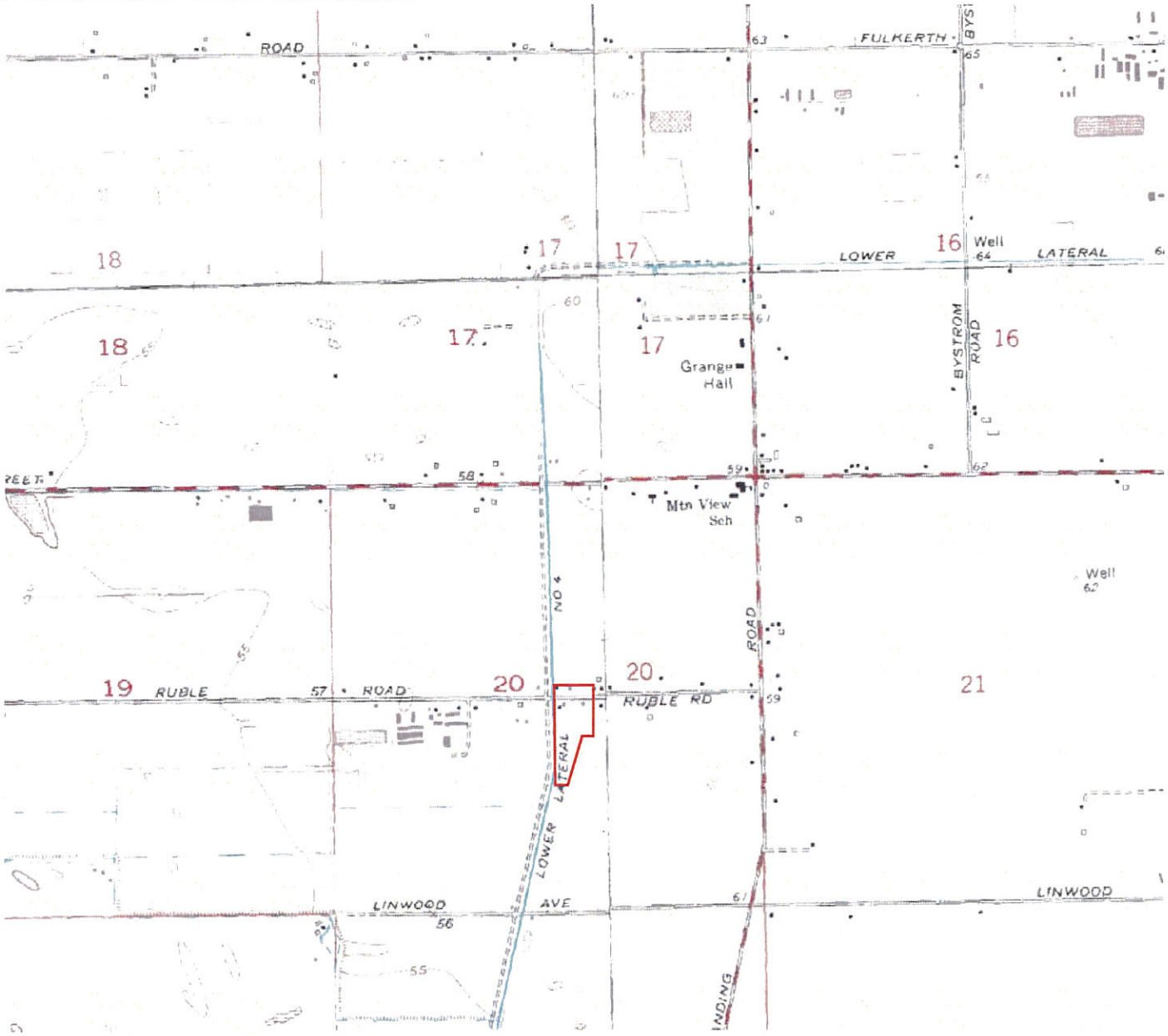
PRINT OR TYPE NAME

PRINT OR TYPE NAME

5/21/14

DATE

DATE



LEGEND

Owned Land

Ag Services, Inc.

SCALE:

0 3,000 6,000

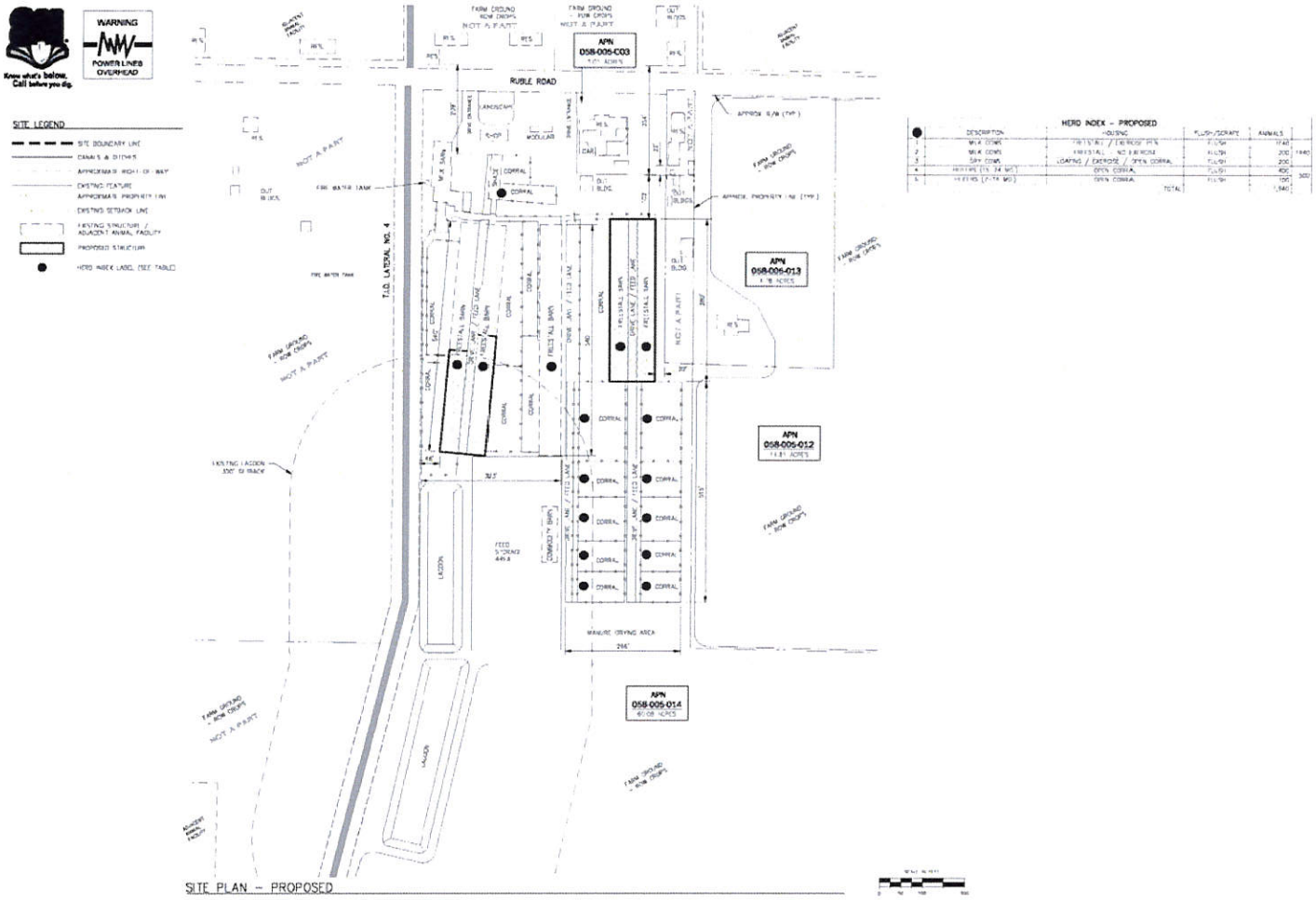
HORIZONTAL SCALE IN FEET

K&R BLOUNT DAIRY
STANISLAUS COUNTY, CA

FIGURE 1
TOPOGRAPHIC MAP

PROJECT NO.	DATE:	DRAWN BY:	APP. BY:
FRA-00	5/20/14	SB	JR

KR Blount-fields and Facility



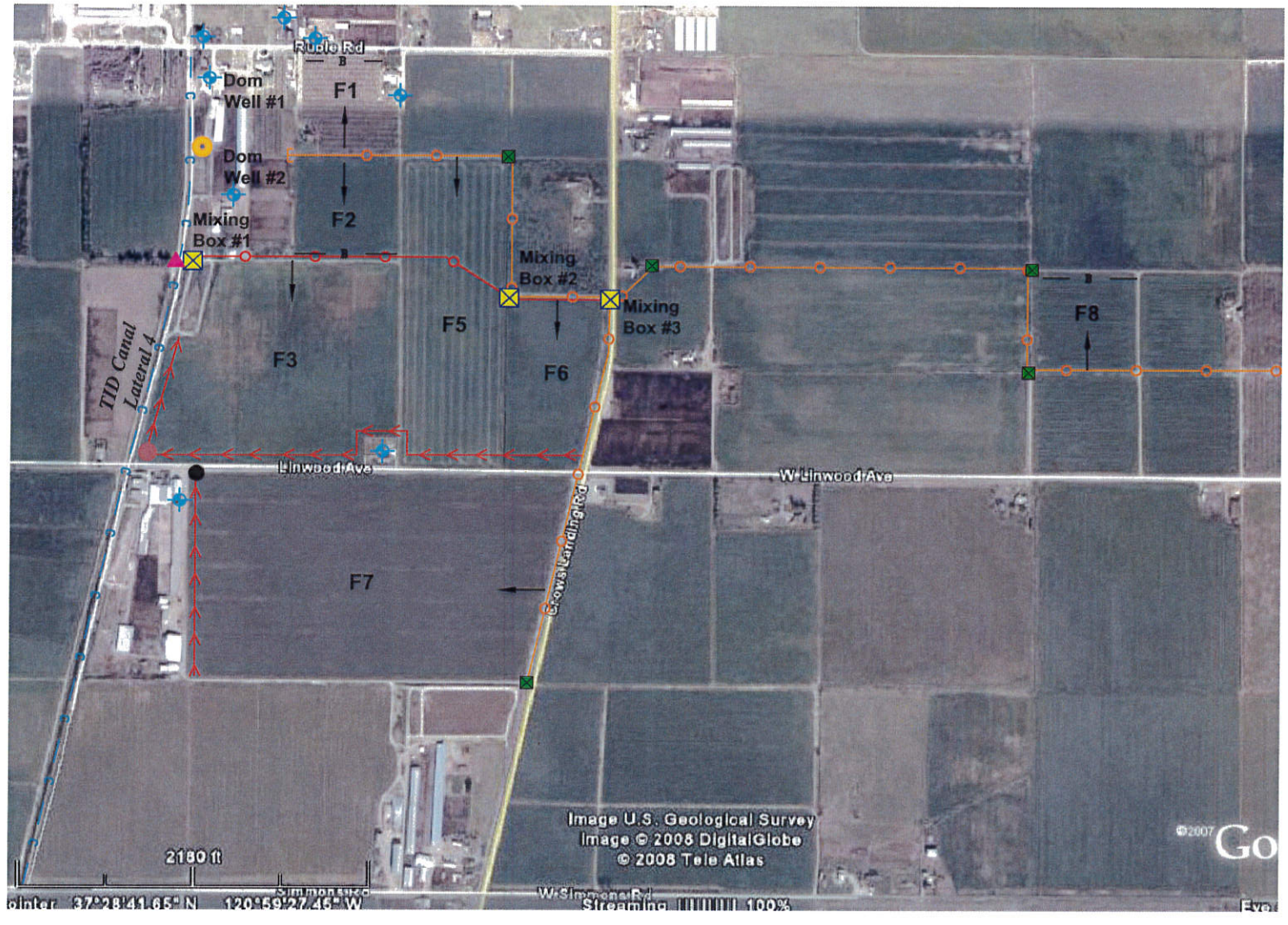
SCALE:			
0 400 800 APPROXIMATE SCALE IN FEET	K&R BLOUNT DAIRY STANISLAUS COUNTY, CA	**FIGURE 2** **Proposed Site Plan**	
PROJECT NO. FRA-00	DATE: 5/15/14	DRAWN BY: SB	APP. BY: JR

Ag Services, Inc.

KR Blount-fields and Facility

LEGEND

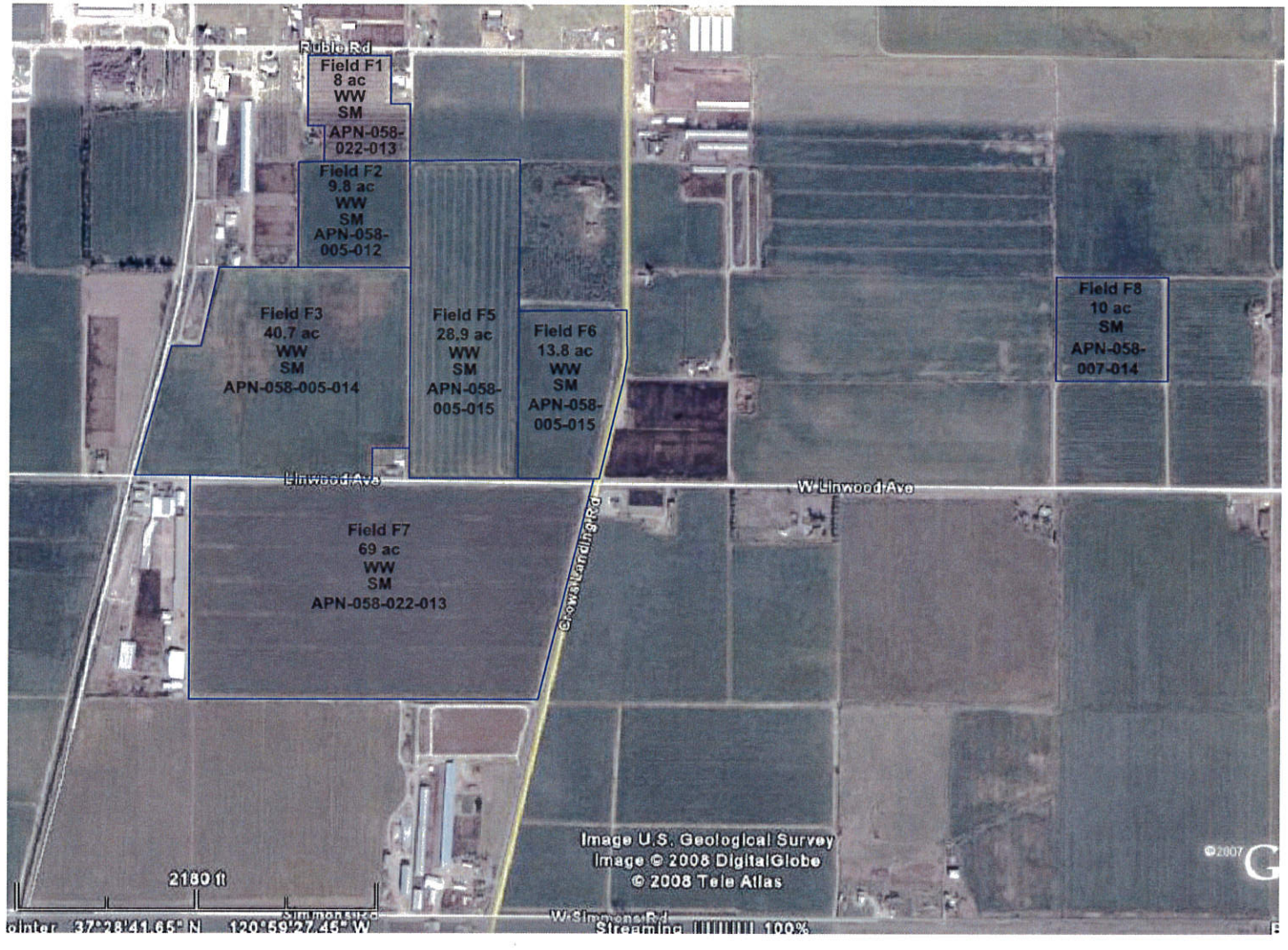
- Capped
- Control Box
- Mixing Box
- Domestic Well
- Lagoon Discharge Pump
- Tailwater Pump
- Screw Valve
- Inlet Valve
- Drainage Flow
- Irrigation Flow
- Irrigation Pipeline
- Wastewater Pipeline
- Canal
- Berms/Levees



FR Ag Services, Inc.	SCALE: 0 1000 2000 APPROXIMATE SCALE IN FEET	K&R BLOUNT DAIRY STANISLAUS COUNTY, CA			**FIGURE 3** IRRIGATION/DRAINAGE MAP
	PROJECT NO. FRA-00	DATE: 5/15/14	DRAWN BY: SB	APP. BY: JR	KR Blount-fields and Facility

LEGEND

☐	Owned Land
SM	Solid Manure
WW	Wastewater



Ag Services, Inc.	SCALE: 0 1000 2000 APPROXIMATE SCALE IN FEET	K&R BLOUNT DAIRY STANISLAUS COUNTY, CA	**FIGURE 4** FARMING MAP	
	PROJECT NO. FRA-00	DATE: 5/15/14	DRAWN BY: SB	APP. BY: JR

KR Blount-fields and Facility