

APPENDIX E: TERMS OF THE NUTRIENT MANAGEMENT PLAN INCORPORATED INTO THE PERMIT

I. PERMITTEE

In accordance with Parts III.2.b and f of NPDES Permit No. NMG010000, the following terms of the nutrient management plan (NMP) are hereby incorporated as site specific terms and conditions of the general permit for:

NMG010052
 Cottonwood Springs Dairy LLC
 491 West Funk Road
 Lake Arthur, NM 88253

For the purposes of this permit, “NMP” refers to the latest version of the NMP approved by EPA. Any changes to the NMP must be submitted to EPA in accordance with Part III.A.6 of the permit.

II. SITE SPECIFIC PERMIT TERMS

A. Adequate Storage

Table 1

STORAGE STRUCTURE	STORAGE PERIOD (days)	TOTAL CAPACITY (gallons)
Lagoon A	(Used for solid separation)	954,734
Lagoon B	60	4,026,753
Lagoon C	60	10,746,566
Runoff Pond	NA	9,286,754
Catchment basin	NA	91,899,982

Manure shall be stored in accordance with Section II of the NMP and the USDA-NRCS CNMP Inventory (Section 4 of the CNMP).

B. Land Application

The permittee has selected the narrative rate approach to address rates of land application. The permittee shall calculate the amounts of manure, litter, and process wastewater to be land applied on land application areas specified below using the N.M.S.U.-Soil Test Interpretation Report Software Version 4.10 (590 Nutrient Management Jobsheet) (see <http://www.nm.nrcs.usda.gov/technical/water/nmafo.html>) in accordance with Parts III.A.3.g.ii and III.A.7.f of NMG010000.

Table 2

Land Application Area	Outcome of the field-specific assessment of the potential for nitrogen and phosphorus transport (*1)	Crop	Annual Yield Goal (tons/ac)	Recommendation		Maximum Amount of Nutrients Derived from all Sources	
				Nitrogen (lbs N/ac)	Phosphorus (lbs P ₂ O ₅ /ton) (*13)	Nitrogen (lbs N/ac)	Phosphorus (lbs P ₂ O ₅ /ac)
Field 1	N-Based	Alfalfa	9	To Be Calculated (*4)	15.261 (*9)	To Be Calculated (*4)	TBD (*9, 11)
		Corn silage	28	To Be Calculated (*5)	4.010 (*9)	To Be Calculated (*5)	TBD (*9, 11)
		Oats silage	5 (*2)	See Table 3 (*6, 7)	0.880 (*9, 10)	See Table 3 (*6, 7)	TBD (*9, 11)
		Wheat silage	14	See Table 3 (*6, 7)	4.331 (*9)	See Table 3 (*6, 7)	TBD (*9, 11)
		Pasture, Grass, G. stand, L. season	6000 (*3)	See Table 3 (*6, 7)	0.003 (*9, 12)	See Table 3 (*6, 7)	TBD (*9, 11)
		Pasturegrass, Bermuda	5	To Be Calculated (*8)	7.094 (*9)	To Be Calculated (*8)	TBD (*9, 11)
Field 2	N-Based	Alfalfa	9	To Be Calculated (*4)	15.261 (*9)	To Be Calculated (*4)	TBD (*9, 11)
		Corn silage	28	To Be Calculated (*5)	4.010 (*9)	To Be Calculated (*5)	TBD (*9, 11)

		Oats silage	5 (*2)	See Table 3 (*6, 7)	0.880 (*9, 10)	See Table 3 (*6, 7)	TBD (*9, 11)
		Wheat silage	14	See Table 3 (*6, 7)	4.331 (*9)	See Table 3 (*6, 7)	TBD (*9, 11)
		Pasture, Grass, G. stand, L. season	6000 (*3)	See Table 3 (*6, 7)	0.003 (*9, 12)	See Table 3 (*6, 7)	TBD (*9, 11)
		Pasturegrass, Bermuda	5	To Be Calculated (*8)	7.094 (*9)	To Be Calculated (*8)	TBD (*9, 11)
Field 3	N-Based	Alfalfa	9	To Be Calculated (*4)	15.261 (*9)	To Be Calculated (*4)	TBD (*9, 11)
		Corn silage	26	To Be Calculated (*5)	4.010 (*9)	To Be Calculated (*5)	TBD (*9, 11)
		Oats silage	9 (*2)	See Table 3 (*6, 7)	0.880 (*9, 10)	See Table 3 (*6, 7)	TBD (*9, 11)
		Wheat silage	14	See Table 3 (*6, 7)	4.331 (*9)	See Table 3 (*6, 7)	TBD (*9, 11)
		Pasture, Grass, G. stand, L. season	6000 (*3)	See Table 3 (*6, 7)	0.003 (*9, 12)	See Table 3 (*6, 7)	TBD (*9, 11)
		Pasturegrass, Bermuda	5	To Be Calculated (*8)	7.094 (*9)	To Be Calculated (*8)	TBD (*9, 11)
Field 4	N-Based	Alfalfa	9	To Be Calculated (*4)	15.261 (*9)	To Be Calculated (*4)	TBD (*9, 11)
		Corn silage	28	To Be Calculated (*5)	4.010 (*9)	To Be Calculated (*5)	TBD (*9, 11)
		Oats silage	5 (*2)	See Table 3 (*6, 7)	0.880 (*9, 10)	See Table 3 (*6, 7)	TBD (*9, 11)
		Wheat silage	14	See Table 3 (*6, 7)	4.331 (*9)	See Table 3 (*6, 7)	TBD (*9, 11)
		Pasture, Grass, G. stand, L. season	6000 (*3)	See Table 3 (*6, 7)	0.003 (*9, 12)	See Table 3 (*6, 7)	TBD (*9, 11)
		Pasturegrass, Bermuda	5	To Be Calculated (*8)	7.094 (*9)	To Be Calculated (*8)	TBD (*9, 11)
Field 5	N-Based	Alfalfa	9	To Be	15.261 (*9)	To Be	TBD (*9, 11)

				Calculated (*4)		Calculated (*4)	
		Corn silage	28	To Be Calculated (*5)	4.010 (*9)	To Be Calculated (*5)	TBD (*9, 11)
		Oats silage	5 (*2)	See Table 3 (*6, 7)	0.880 (*9, 10)	See Table 3 (*6, 7)	TBD (*9, 11)
		Wheat silage	14	See Table 3 (*6, 7)	4.331 (*9)	See Table 3 (*6, 7)	TBD (*9, 11)
		Pasture, Grass, G. stand, L. season	6000 (*3)	See Table 3 (*6, 7)	0.003 (*9, 12)	See Table 3 (*6, 7)	TBD (*9, 11)
		Pasturegrass, Bermuda	5	To Be Calculated (*8)	7.094 (*9)	To Be Calculated (*8)	TBD (*9, 11)
Field 6	N-Based	Alfalfa	9	To Be Calculated (*4)	15.261 (*9)	To Be Calculated (*4)	TBD (*9, 11)
		Corn silage	28	To Be Calculated (*5)	4.010 (*9)	To Be Calculated (*5)	TBD (*9, 11)
		Oats silage	5 (*2)	See Table 3 (*6, 7)	0.880 (*9, 10)	See Table 3 (*6, 7)	TBD (*9, 11)
		Wheat silage	14	See Table 3 (*6, 7)	4.331 (*9)	See Table 3 (*6, 7)	TBD (*9, 11)
		Pasture, Grass, G. stand, L. season	6000 (*3)	See Table 3 (*6, 7)	0.003 (*9, 12)	See Table 3 (*6, 7)	TBD (*9, 11)
		Pasturegrass, Bermuda	5	To Be Calculated (*8)	7.094 (*9)	To Be Calculated (*8)	TBD (*9, 11)
Field 7	N-Based	Alfalfa	9	To Be Calculated (*4)	15.261 (*9)	To Be Calculated (*4)	TBD (*9, 11)
		Corn silage	28	To Be Calculated (*5)	4.010 (*9)	To Be Calculated (*5)	TBD (*9, 11)
		Oats silage	5 (*2)	See Table 3 (*6, 7)	0.880 (*9, 10)	See Table 3 (*6, 7)	TBD (*9, 11)
		Wheat silage	14	See Table 3 (*6, 7)	4.331 (*9)	See Table 3 (*6, 7)	TBD (*9, 11)
		Pasture, Grass, G. stand, L. season	6000 (*3)	See Table 3 (*6, 7)	0.003 (*9, 12)	See Table 3 (*6, 7)	TBD (*9, 11)

		Pasturegrass, Bermuda	5	To Be Calculated (*8)	7.094 (*9)	To Be Calculated (*8)	TBD (*9, 11)
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Footnotes

*1 Outcome of the field-specific assessment of the potential for nitrogen and phosphorus transport must be recalculated at least annually using the most recent soil test results.

*2 bu/ac

*3 lbs/ac

*4 Shall be calculated at least once annually using the following equation: $[(\text{Yield Goal} \times 2000) \times 0.0336] - \text{soil N lbs/ac}$. Soil N (lbs/ac) shall be calculated using the most recent soil test results and the N.M.S.U.-Soil Test Interpretation Report Software Version 4.10 (590 Nutrient Management Jobsheet).

*5 Shall be calculated at least once annually using the following equation: $[35 + (7.5 \times \text{Yield Goal}) - (4 \times \text{Soil NO}_3\text{-N ppm}) - (0.85 \times \text{Yield Goal} \times \text{Organic Matter } \%)]$. Soil NO₃-N (ppm) and Organic Matter (%) shall be determined using the most recent soil test results.

*6 Nutrient recommendation equals the maximum amount of nutrients derived from all sources for nitrogen. Nutrient recommendations and maximum amount of nutrients derived from all sources for nitrogen are dependent on the outcome of annual soil test results when determined by the above methodology. Determination of these values shall be reported to EPA and NMED in the annual report required by Part V of NMG010000.

*7 Shall be identified at least once annually using the most recent soil test results and Table 3 below.

*8 Shall be calculated at least once annually using the following equation: $[((\text{Yield Goal} - 1.077)/0.018) - (\text{soil N lbs/ac})]$. Soil N (lbs/ac) shall be calculated using the most recent soil test results and the N.M.S.U.-Soil Test Interpretation Report Software Version 4.10 (590 Nutrient Management Jobsheet).

*9 Nutrient recommendations and maximum amount of nutrients derived from all sources have been established for both nitrogen and phosphorus; However, in accordance with the outcome of the field-specific assessment of the potential for nitrogen and phosphorus transport, land application of manure, litter, and process wastewater shall be nitrogen based.

*10 lbs P₂O₅/bu

*11 To be determined. The maximum amount of phosphorus derived from all sources shall be the quantity of phosphorus in the volume of land applied manure, litter, and process wastewater reported in the annual report.

*12 lbs P₂O₅/lbs

*13 As determined by the Crop Sheet of N.M.S.U.-Soil Test Interpretation Report Software Version 4.10 (590 Nutrient Management Jobsheet).

Table 3

Soil NO ₃ -N (ppm)	Nitrogen Recommendation (lbs/ac)		
	Wheat Silage	Oats Silage	Pasture, grass, G. stand, L. season
0.01-4.9	225	225	240
5-9.9	225	225	220
10-29.9	150	150	180
30-49.9	80	80	80
≥ 50	0	0	0

C. Site Specific Conservation Practices

Table 4

Agricultural Well Head, Surface Water, or Conduit to Surface Water	Setback Requirement
Production Well (SW corner of Field 1)	100-ft. setback
Production Well (SW corner of property boundary)	100-ft. setback
Production Well (South of Lagoon B)	100-ft. setback.
Production Well (South of Fresh Water Pond)	100-ft. setback
Cottonwood Creek	100-ft. setback
Intermittent Drainage	100-ft. setback

D. Protocols for appropriate testing of manure, litter, process wastewater, and soil

Manure and process wastewater shall be sampled in accordance with Section XI.E of the NMP.

E. Mortality Management

All mortalities shall be disposed of in accordance with Section VI of the NMP.

F. Clean Water Diversion

Berms shall be used as perimeter controls to prevent clean water runoff from adjacent land from entering the production area in accordance with Section VII of the NMP and Map 3 (Section 4 of the CNMP).