

STATE OF NEW MEXICO  
BEFORE THE WATER QUALITY CONTROL COMMISSION

COPY



\_\_\_\_\_)  
\_\_\_\_\_)  
**In the Matter of:** \_\_\_\_\_)  
\_\_\_\_\_)  
**PROPOSED AMENDMENT** \_\_\_\_\_)  
**TO 20.6.2 NMAC (Diary Rules)** \_\_\_\_\_)  
\_\_\_\_\_)  
\_\_\_\_\_)

No.: WQCC 09-13 (R)

**NOTICE OF REVISED  
NMED REBUTTAL ATTACHMENT 2  
6/8/10 VERSION**

The New Mexico Environment Department ("Department") hereby files the attached Revised NMED Rebuttal Attachment 2, 6/8/10 version, which incorporates the changed language contained in the Notice of Proposed Language Changes filed on June 3, 2010, the Supplemental Notice of Proposed Language Changes filed on June 7, 2010, and the Notice of Errata, also filed on June 7, 2010. This filing is in response to a request by Commissioner Sloan.

Respectfully submitted,

NEW MEXICO ENVIRONMENT DEPARTMENT  
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**CERTIFICATE OF SERVICE**

I certify that on ~~May 4~~<sup>June 9</sup>, 2010, I served this **NOTICE OF REVISED NMED REBUTTAL ATTACHMENT 2, 6/8/10 VERSION**, by electronic mail, to:

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**NMED REBUTTAL ATTACHMENT 2**  
**NMED Proposed Dairy Rule**  
**June 9, 2010**

1 **20.6.2.3200 SUPPLEMENTAL PERMITTING REQUIREMENTS FOR DAIRY FACILITIES**

2 [20.6.2.3200 NMAC – N, effective date]

3

4 **20.6.2.3201 PURPOSE:** The purpose of Sections 20.6.2.3200 through 20.6.2.3235 NMAC is to  
5 supplement the general permitting requirements of Sections 20.6.2.3000 through 20.6.2.3114 NMAC to  
6 control discharges specific to dairy facilities and their operations.

7

8 **20.6.2.3202 DEFINITIONS:**

9 A. Terms defined in the Water Quality Act and Section 20.6.2.7 NMAC shall have the  
10 meanings as given in such.

11 B. As used in Sections 20.6.2.3200 through 20.6.2.3235 NMAC, but not in other sections of  
12 this Part, a term defined in this section shall have the following meaning.

13 (1) "Adjacent" means lying near, but lacking actual contact along a boundary or at a point.

14 (2) "Applicant" means the person applying for a new, renewed or modified discharge  
15 permit.

16 (3) "Construction quality assurance" or "CQA" means a planned system of activities  
17 necessary to ensure that standards and procedures are adhered to and that construction and installation meet  
18 design criteria, plans and specifications. A CQA includes inspections, verifications, audits, evaluations of  
19 material and workmanship necessary to determine and document the quality of the constructed  
20 impoundment or structure, and corrective actions when necessary.

21 (4) "Construction quality control" or "CQC" means a planned system of operational  
22 techniques and activities used to preserve the quality of materials and ensure construction to specifications.  
23 Elements of a CQC include inspections, testing, data collection, data analysis and appropriate corrective  
24 actions.

25 (5) "Contiguous" means being in actual contact along a boundary or at a point.

26 (6) "CQA/CQC Report" means a report that summarizes all inspection, testing, data  
27 collection, data analysis and any corrective actions completed as part of CQA or CQC for a project.

28 (7) "Dairy facility" means ~~the entire dairy site, including~~ the production area and the land  
29 application area, where the discharge and associated activities will or do take place.

30 (8) "Dairy rule" means Sections 20.6.2.3200 through 20.6.2.3235 NMAC, as amended.

31 (9) "Date of postal notice" means the date when the United States Postal Service (USPS)  
32 first makes notice to the applicant or permittee of its possession of certified mail addressed to the applicant  
33 or permittee.

34

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1           (109) "Discharge volume" means the measured maximum daily volume in gallons per day  
2 of wastewater actually discharged within the production area authorized for discharge by a discharge  
3 permit. This definition does not include the volume of wastewater discharged to the land application area.

4           (110) "EPA" means the United States Environmental Protection Agency.

5           (124) "Existing dairy facility" means a dairy facility that is currently discharging, or has  
6 previously discharged and has not been issued a notice from the department verifying that closure and post-  
7 closure monitoring activities have been completed.

8           (133) "Existing impoundment" means an impoundment that is currently receiving or has ever  
9 received wastewater or collected stormwater and that has not been closed pursuant to a discharge permit.

10          (138) "Expiration" means the date upon which the term of a discharge permit ends.

11          (134) "Field" means a unit of irrigated cropland within the land application area cultivated  
12 in the same manner to grow a specific crop for the uptake and removal of nutrients.

13          (135) "Flow meter" means a device used to measure the volume of water, wastewater or  
14 stormwater that passes a particular reference section in a unit of time.

15          (174) "Freeboard" means the vertical distance between the elevation at the lowest point of  
16 the top inside edge of the impoundment or spillway and the design high water elevation of the water level  
17 in the impoundment.

18          (125) "Impoundment" means any structure designed and used for storage or disposal by  
19 evaporation of wastewater, stormwater, or a combination of both wastewater and stormwater, or used for  
20 solids settling. A multiple-cell impoundment system having at least one shared berm or barrier whose  
21 smallest cells have a cumulative constructed capacity of 10 percent or less of the constructed capacity of  
22 the largest cell shall be considered a single impoundment for the purposes of these dairy rules.

23          (139) "Land application area" means irrigated and cultivated fields collectively authorized  
24 by a discharge permit to receive wastewater or stormwater applications as a source of nutrients managed  
25 for crop production.

26          (2029) "Land application data sheet" means a form used to report all nitrogen inputs applied  
27 to each field within the land application area, including the cropping status of the field at the time of  
28 application (i.e., fallow, corn, wheat, etc.).

29          (21) "Manure" means an agricultural waste composed of excreta of animals, and residual  
30 bedding materials, waste feed or other materials that have contacted excreta from such animals.

31          (22) "Maximum daily discharge volume" means the total daily volume of wastewater  
32 expressed in gallons per day) authorized for discharge by a discharge permit. This definition does not  
33 include the volume of wastewater discharged to the land application area.

34          (230) "New dairy facility" means a dairy facility that has never before discharged  
35 wastewater.

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1           (281) "Permittee" means a person who is issued or receives by transfer a discharge permit  
2 for a dairy facility or ~~in the absence of a discharge permit, a person~~ who makes or controls a discharge at a  
3 dairy facility.

4           (282) "Production area" means that part of the animal feeding operation that includes the  
5 following: the animal confinement areas; the manure, residual solids and compost storage areas; the raw  
6 materials storage areas; and the wastewater and stormwater containment areas. The animal confinement  
7 areas include but are not limited to open lots, housed lots, feedlots, confinement barns, stall barns, free stall  
8 barns, milkrooms, milk centers, cowyards, barnyards, hospital pens and barns, and animal walkways. The  
9 manure, residual solids and compost storage areas include, but are not limited to, storage sheds, stockpiles,  
10 static piles, and composting piles. The raw materials storage areas include, but are not limited, to feed  
11 silos, silage storage areas, feed storage barns, and liquid feed tanks. The wastewater and stormwater  
12 containment areas include, but are not limited to, settling separators, impoundments, sumps, runoff  
13 drainage channels, and areas within berms and diversions which prohibit uncontaminated stormwater from  
14 coming into contact with contaminants.

15           (283) "Spillway" means a structure used for controlled releases from an impoundment  
16 designed to receive stormwater, in a manner that protects the structural integrity of the impoundment.

17           (284) "Stormwater" means direct precipitation and runoff that comes into contact with  
18 water contaminants ~~within the production area of a dairy facility.~~

19           (285) "Unauthorized discharge" means a release of wastewater, stormwater or other  
20 substances containing water contaminants not approved by a discharge permit.

21           (286) "Wastewater" means water, except overflow from the drinking water system and  
22 stormwater, that has come into contact with water contaminants as a result of being directly or indirectly  
23 used in the operations of a dairy facility including , but not limited to, the following: washing, cleaning, or  
24 flushing barns or other roof-covered production areas; washing of animals; spray-cooling of animals  
25 (except in open lots); and cooling or cleaning of feed mills and equipment.

26  
27  
28 **20.6.2.3203       REQUIREMENTS FOR DISCHARGING FROM DAIRY FACILITIES:**

29           A.       No person shall discharge from a dairy facility without a discharge permit. A person  
30 intending to discharge from a dairy facility shall submit an application for a discharge permit pursuant to  
31 Section 20.6.2.3205 NMAC and remit fees pursuant to 20.6.2.3204 NMAC.

32  
33           B.       Permittees, owners of record of a dairy facility and holders of an expired permit are  
34 responsible for complying with the dairy rules.

35  
36           ~~C.       Sections 20.6.2.3200 through 20.6.2.3205 NMAC apply to a dairy facility.~~

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1 **DC.** Unless otherwise noted in Sections 20.6.2.3200 through 20.6.2.3235 NMAC, the  
2 requirements of Sections 20.6.2.3101 through 20.6.2.3114 NMAC apply to a dairy facility.

3  
4 **DE** Complying with the requirements of Sections 20.6.2.3200 through 20.6.2.3235 NMAC  
5 does not relieve a dairy facility's owner, operator or permittee from complying with the requirements of  
6 other applicable local, state and federal regulations or laws.

7  
8 **20.6.2.3204 FEES:** ~~In lieu of paying fees under~~~~Notwithstanding~~ the requirements of 20.6.2.3114  
9 NMAC, an applicant or permittee shall pay fees to the department pursuant to this section.

10  
11 A. An applicant for a discharge permit or a discharge permit renewal for a dairy facility shall  
12 remit with the application to the department a filing fee in the amount of one hundred dollars (\$100) and  
13 one-half of the applicable permit fee from Table 1 of 20.6.2.3114 NMAC. The filing fee and the permit fee  
14 payment remitted with the application are not refundable and may not be applied toward future discharge  
15 permit applications. If the department issues a discharge permit, the permittee shall remit a permit fee  
16 payment equal to one-tenth of the applicable permit fee from Table 1 of 20.6.2.3114 NMAC on the first  
17 occurrence of August 1 after the effective date of the discharge permit, and annually thereafter until the  
18 expiration or termination of the discharge permit.

19  
20 B. An applicant for a discharge permit modification separate from a discharge permit  
21 renewal shall remit a filing fee of one hundred dollars (\$100) and a permit modification fee with the  
22 application. The permit modification fee shall be equal to one-half of the applicable permit fee from Table  
23 1 of 20.6.2.3114 NMAC. The filing fee and the permit modification fee payment remitted with the  
24 application are not refundable and may not be applied toward future discharge permit applications.  
25 Payment of the permit modification fee shall not relieve a permittee from remitting the permit fee payments  
26 required by Subsection A of this section. If the discharge permit modification is required by the secretary  
27 outside the context of an enforcement action, a permit modification fee is not required.

28  
29 **C.** A permittee requesting temporary permission to discharge pursuant to Subsection B of  
30 20.6.2.3106 NMAC shall pay the fee specified in 20.6.2.3114 NMAC.

31  
32 **20.6.2.3205 GENERAL APPLICATION REQUIREMENTS FOR ALL DAIRY FACILITIES,**  
33 This section specifies the general requirements for discharge permit applications for all types of dairy  
34 facilities.

35 A. In lieu of~~Notwithstanding~~ Subsection F of 20.6.2.3106 NMAC, a permittee shall submit  
36 an application for renewal of a discharge permit for a dairy facility to the department at least one year

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1 before the discharge permit expiration date ~~unless closure of the facility is approved by the department~~  
2 ~~before that date. Notwithstanding Paragraph (1) of Subsection A of 20.6.2.3107 NMAC, a permittee with~~  
3 ~~a discharge permit that will expire while a dairy facility is in the process of completing permanent closure~~  
4 ~~measures or post-closure monitoring shall submit a renewal application for closure to the department at~~  
5 ~~least one year before the discharge permit expiration date.~~ At least 180 days before the due date for an  
6 application for renewal, a permittee may request a pre-application meeting with the department. The pre-  
7 application meeting shall be held in Santa Fe, unless otherwise agreed by the department. Requests shall be  
8 made in writing and submitted to the department by certified mail. If a permittee requests a pre-application  
9 meeting, the department shall contact the permittee to discuss and schedule a date for the pre-application  
10 meeting. The department shall respond to the permittee's request in writing by certified mail to confirm the  
11 pre-application meeting date. The pre-application meeting shall occur no less than 60 days before the  
12 application due date. If the permittee or his representative fails to participate in the scheduled pre-  
13 application meeting, the permittee forfeits the opportunity for a pre-application meeting.

14           **B.** For a dairy facility that has not been constructed or operated, a permittee shall submit to  
15 the department at least one year before the discharge permit expiration date an application for renewal  
16 pursuant to Subsection A **of this section** or may submit a statement to the department at least one year  
17 before the discharge permit expiration date certifying that the dairy facility has not been and will not be  
18 constructed or operated and that no discharges have occurred or will occur. Upon the department's  
19 verification of the certification, the department shall terminate the discharge permit, if necessary, and retire  
20 the discharge permit number from use.

21           **C.** Instead of the information required by Subsection C of 20.6.2.3106 NMAC, an applicant:

- 22           (1) for a new discharge permit, shall provide the information and supporting technical  
23 documentation pursuant to this section and Section 20.6.2.3206 NMAC;
- 24           (2) for a renewed or modified discharge permit, shall provide the information and supporting  
25 technical documentation pursuant to this section and Section 20.6.2.3207 NMAC; or
- 26           (3) for a renewed discharge permit for closure, shall provide the information and supporting  
27 technical documentation pursuant to this section and Section 20.6.2.3208 NMAC.

28           **D.** The department shall create a discharge permit application form ~~specific to~~ **for** dairy  
29 facilities applying for a new discharge permit, for dairy facilities applying for a renewed, modified or  
30 renewed and modified discharge permit, and for dairy facilities applying for a discharge permit for closure  
31 to collect the information required by this section. The information requested on the form(s) shall be  
32 limited to the information required by this section. An applicant shall use the department's form to provide  
33 the information required by this section. An application shall consist of the appropriate form and required  
34 supporting documentation, regardless of previous submissions. The applicant shall attest to the truth of the  
35 information and supporting documentation in the application, and sign the form. The form shall be signed  
36 in the presence of a notary and notarized. The applicant shall provide to the department a hard copy (paper

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1 format) of the original signed and notarized completed application form and all supporting documentation.  
2 The applicant shall also provide an electronic copy of the original signed and notarized application and all  
3 supporting documentation in portable document format (PDF) on a compact disc (CD) or digital versatile  
4 disc (DVD).

5 E. If an applicant filing an application for a new discharge permit does not certify that the  
6 dairy facility complies with the setback requirements of Section 20.6.2.3216 NMAC, as required by  
7 Subsection D of 20.6.2.3206 NMAC, the department shall reject the application. The department shall  
8 provide notice of the rejection to the applicant by certified mail.

9 F. Within 60 days of the department's receipt of proof of notice pursuant to Subsection D of  
10 20.6.2.3108 NMAC, the department shall review the application for technical completeness. If proof of  
11 notice is not submitted to the department pursuant to Subsection D of 20.6.2.3108 NMAC, the department  
12 ~~shall notify the applicant by certified mail of the violation and provide 15 days from the date of postal~~  
13 ~~notice for the applicant to submit the proof pursuant to Subsection D of 20.6.2.3108 NMAC. If proof of~~  
14 ~~notice is not submitted to the department following the issuance of a notice of violation, the department~~  
15 may deny the application.

16 G. For an application to be deemed technically complete, an application shall include the  
17 information required by Subsection C of this section. Submittals or supporting documentation that require  
18 the certification of persons specified in the dairy rule are deemed technically complete if the documentation  
19 is prepared in accordance with the dairy rule and is certified by persons specified in the dairy rule. If the  
20 department determines that an application is not technically complete, the department shall provide notice  
21 of technical deficiency to the applicant by certified mail within 60 days of receipt of the applicant's proof of  
22 notice. The applicant shall have ~~30~~60 days from the ~~date of postal the notice~~ of ~~the~~ technical deficiency  
23 ~~correspondence~~ to provide the information required by this section.

24 (1) If an application is technically complete, the department shall make available a proposed  
25 approval of a discharge permit (i.e., draft discharge permit) or denial of a discharge permit application,  
26 pursuant to Subsection H of 20.6.2.3108 NMAC.

27 (2) If an applicant filing an application for a new discharge permit does not provide all  
28 information required by this section to the department within ~~30~~60 days of the ~~date of postal the notice~~ of  
29 ~~the~~ technical deficiency ~~correspondence~~, the department shall deny the application. The department shall  
30 provide notice of denial to the applicant by certified mail.

31 (3) If an applicant for a renewed or modified discharge permit does not provide all  
32 information required by this section to the department within ~~30~~60 days of the ~~date of postal the notice~~ of  
33 ~~the~~ technical deficiency ~~correspondence~~, the department may deny the application or ~~may~~ propose a  
34 discharge permit for approval consistent with the requirements of these regulations.

35 ~~(a)~~ If the department denies the application, the department shall provide notice of  
36 denial to the applicant by certified mail.

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1 ~~\_\_\_\_\_ (b) If following an unclassified notice of technical deficiency, the department~~  
2 ~~proposes approval of the discharge permit and the secretary approves the discharge permit, the permittee~~  
3 ~~shall submit the required information in the notice of technical deficiency within 30 days of the effective~~  
4 ~~date of the discharge permit.~~

5 **H.** ~~The department may impose additional conditions on a discharge permit in accordance~~  
6 ~~with Section 74-6-5 NMSA 1978.~~ If the department proposes an additional condition in a discharge permit  
7 that is not included in the dairy rules, the department shall include a written explanation of the reason for  
8 the additional condition with the copy of the proposed approval sent to the applicant pursuant to Subsection  
9 H of 20.6.2.3108 NMAC. Written comments about the additional condition may be submitted to the  
10 department during the 30-day comment period provided by Subsection K of 20.6.2.3108 NMAC. A  
11 hearing may be requested about the additional **condition** as provided by Section 20.6.2.3215 NMAC.

12 ~~\_\_\_\_\_ With the exception of Subparagraph (e) of Paragraph (3) of Subsection G of 20.6.2.3109~~  
13 ~~NMAC and provided that the requirements of Section 20.6.2.3205 NMAC are met, the secretary shall~~  
14 ~~approve a discharge permit or deny an application for a discharge permit pursuant to Section 20.6.2.3109~~  
15 ~~NMAC.~~

16 ~~\_\_\_\_\_ The secretary shall approve a discharge permit provided that:~~

17 ~~(1) the requirements of the dairy rule are met;~~

18 ~~(2) the provisions of 20.6.2.3109 NMAC are met, with the exception of Subsection G~~  
19 ~~of 20.6.2.3109 NMAC; and~~

20 ~~(3) denial of an application for a discharge permit is not required pursuant to~~  
21 ~~Subsection E of Section 74-6-5 NMSA 1978.~~

22  
23  
24 **20.6.2.3206 APPLICATION REQUIREMENTS FOR NEW DISCHARGE PERMITS:**

25 **A.** An application for a new discharge permit shall include the information in this section.

26 **B. Contact Information:** An application shall include the:

27 (1) applicant's name, title and affiliation with the dairy facility, mailing address, and phone  
28 number;

29 (2) dairy facility manager's or operator's name, title and affiliation with the dairy facility,  
30 mailing address and phone number;

31 (3) application preparer's name, title and affiliation with the dairy facility, mailing address,  
32 phone number and signature; and

33 (4) mailing address and phone number of any consultants ~~contracted~~ **authorized** to assist the  
34 dairy facility with compliance with the Water Quality Act and 20.6.2 NMAC.

35 **C. Ownership and Real Property Agreements:**

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1 (1) An application shall include the dairy facility owner's name, title, mailing address and  
2 phone number.

3 (a) If more than one person has an ownership interest in the dairy facility, then the  
4 applicant shall list all persons having an ownership interest in the dairy facility, including their names,  
5 titles, mailing addresses and phone numbers.

6 (b) If any corporate entity, including but not limited to a corporation or a limited  
7 liability company, holds an ownership interest in the dairy facility, then the applicant shall also list the  
8 name(s), as filed with the New Mexico Public Regulation Commission, of the corporate entity, ~~and the~~  
9 corporate entity's registered agent's name and address, ~~and the name of each of the corporate entity's~~  
10 ~~directors, officers, members or partners.~~

11 (2) If the applicant is not the owner of record of the real property upon which the dairy  
12 facility is or will be situated, or upon which dairy operations and land application will occur, then the  
13 applicant shall submit a copy of any lease agreement or other agreement which authorizes the use of the  
14 real property for the duration of the term of the requested permit. Lease prices or other price terms may be  
15 redacted.

16 **D. Setbacks:** The applicant shall certify that the setback requirements of Section  
17 20.6.2.3216 NMAC are met. An application shall include a scaled map of the dairy facility layout  
18 demonstrating that the proposed layout of the dairy facility meets the setback requirements of Section  
19 20.6.2.3216 NMAC.

20 **E. Dairy Facility Information and Location:** An application shall include:

- 21 (1) the dairy facility name, physical address and county; and  
22 (2) the Township, Range and Section for the entire dairy facility, which includes the  
23 production area and fields within the land application area.

24 **F. Public Notice Preparation:** An application shall include the name of a newspaper of  
25 general circulation in the location of the dairy facility for the future display ad publication, the proposed  
26 public location(s) for posting of the 2-foot by 3-foot sign, and the proposed off-site public location for  
27 posting of the 8.5-inch by 11-inch flyer, as required by Section 20.6.2.3108 NMAC.

28 **G. Pre-Discharge Total Dissolved Solids Concentration in Ground Water:** Pursuant to  
29 Paragraph (3) of Subsection C of 20.6.2.3106 NMAC, an application shall include the pre-discharge total  
30 dissolved solids concentration from analytical results of ground water obtained from the on-site test boring  
31 pursuant to Subsection Z of 20.6.2.3220 NMAC. A copy of the laboratory analysis stating the pre-  
32 discharge total dissolved solids concentration shall be submitted with the application.

33 **H. Determination of Maximum Daily Discharge Volume:** An application shall include:

- 34 (1) the proposed maximum daily discharge volume, and a description of the methods and  
35 calculations used to determine ~~the that proposed discharge~~ volume;

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1           (2) the identification of all sources of wastewater which may include, but are not limited to,  
2 hospital barns, maternity barns, bottle-washing operations and parlor/equipment washdown;

3           (3) the animal washing method(s) employed and the estimated daily wastewater volume  
4 generated by the method(s); and

5           (4) information regarding other wastewater discharges (i.e., domestic or industrial) at the  
6 dairy facility not generated by dairy operations. Permit identification numbers shall be submitted for those  
7 discharges that are already permitted.

8           **I. Wastewater Quality:** An application shall include estimated concentrations of  
9 wastewater quality for total dissolved solids, chloride, ~~sulfate~~ total sulfur, nitrate as nitrogen, total Kjeldahl  
10 nitrogen and other constituents of concern related to the standards of 20.6.2.3103 NMAC that may be  
11 contained in the wastewater at the dairy facility based on data collected at other dairy facilities with similar  
12 discharge(s) volumes and wastewater management systems.

13           **J. Identification and Physical Description of the Dairy Facility:** An application shall  
14 include:

15           (1) a scaled map of the entire dairy facility pursuant to Subsection W of 20.6.2.3220  
16 NMAC;

17           (2) the identification of each proposed impoundment, including information about its  
18 location, purpose (i.e., to store wastewater or stormwater, or dispose of it by evaporation), liner material  
19 and storage or evaporative disposal capacity;

20           (3) the identification of each field within the proposed land application area, including  
21 information about its location, acreage, proposed method of wastewater and stormwater application and  
22 proposed method of irrigation water application;

23           (4) the identification of proposed additional wastewater and stormwater system components  
24 such as, but not limited to, sumps and mix tanks, including information for each component regarding its  
25 location, purpose, construction material, dimensions and capacity; and

26           (5) a description of the proposed location of all manure, silage and compost storage areas at  
27 the dairy facility, including a description of the proposed method(s) employed to protect each area from  
28 stormwater runoff and run-on, and to minimize leachate.

29           **K. Flow Metering:** An application shall describe a dairy facility's flow metering system  
30 pursuant to Subsections K, L, M, N, O and P of 20.6.2.3220 NMAC and Subsections I and J of 20.6.2.3221  
31 NMAC, including:

32           (1) the identification of the method(s) (i.e., pumped versus gravity flow) of wastewater  
33 discharge, stormwater transfer and wastewater and stormwater land application;

34           (2) the proposed flow measurement devices for each flow method; and

35           (3) the identification of flow meter locations.

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1           **L.       Depth-to-Most-Shallow Ground Water and Ground Water Flow Direction:** An  
2 application shall include:

- 3                   (1) the depth-to-most-shallow ground water measurements from the one site-specific test  
4 boring pursuant to Subsection Z of 20.6.2.3220 NMAC; and  
5                   (2) the ground water flow direction of the most-shallow ground water beneath the dairy  
6 facility shall be based on the most recent regional water level data or published hydrogeologic information.  
7 Survey data from nearby monitoring wells and a ground water elevation contour map indicating the  
8 direction of ground water flow may be included. The sources of all information used to determine ground  
9 water flow direction shall be provided with the application.

10           **M.       Monitoring Wells:** An application shall include the proposed monitoring well locations  
11 pursuant to Subsections A and B of 20.6.2.3223 NMAC.

12           **N.       Surface Soil Survey and Vadose Zone Geology:** An application shall include:

- 13                   (1) the most recent regional soil survey map and associated descriptions identifying surface  
14 soil type(s); and  
15                   (2) the lithologic log obtained from the on-site test boring pursuant to Subsection Z of  
16 20.6.2.3220 NMAC to identify the geological profile of the vadose zone.

17           **O.       Location Map:** An application shall include a location map with topographic surface  
18 contours identifying all of the following features located within a one-mile radius of the dairy facility:

- 19                   (1) watercourses, lakebeds, sinkholes, playa lakes and springs (springs used to provide water  
20 for human consumption shall be so denoted);  
21                   (2) wells supplying water for a public water system and private domestic water wells;  
22                   (3) irrigation supply wells; and  
23                   (4) ditch irrigations systems, acequias, irrigation canals and drains.

24           **P.       Flood Zone Map:** An application shall include the most recent 100-year flood zone map  
25 developed by the Federal Emergency Management Administration, FEMA, documenting flood potential for  
26 the dairy facility, and a description of any engineered measures used for flood protection.

27           **Q.       Engineering and Surveying:** Pursuant to Section 20.6.2.3217 NMAC an application  
28 shall include:

- 29                   (1) plans and specifications for impoundments and associated liners;  
30                   (2) plans and specifications for a manure solids separator(s); and  
31                   (3) a grading and drainage report and plan.

32           **R.       Land Application Area:** For a dairy facility with a land application area, an application  
33 shall include:

- 34                   (1) documentation of irrigation water rights pursuant to Subsection D of 20.6.2.3221  
35 NMAC;

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1           (2) a nutrient management plan (NMP) pursuant to Subsections K and L of 20.6.2.3221  
2 NMAC; and

3           (3) a written description of the wastewater sampling location(s) between the manure solids  
4 separator(s) and wastewater impoundment(s) pursuant to Subsection C of 20.6.2.3225 NMAC.

5  
6 **20.6.2.3207 APPLICATION REQUIREMENTS FOR DISCHARGE PERMIT RENEWAL OR**  
7 **MODIFICATION:**

8           A. An application for a renewed or modified discharge permit shall include the information  
9 in this section.

10           B. **Contact Information:** An application shall include the:

11           (1) applicant's name, title and affiliation with the dairy facility, mailing address, and phone  
12 number;

13           (2) dairy facility manager's or operator's name, title and affiliation with the dairy facility,  
14 mailing address and phone number;

15           (3) application preparer's name, title and affiliation with the dairy facility, mailing address,  
16 phone number and signature; and

17           (4) mailing address and phone number of any consultants ~~selected~~ authorized to assist the  
18 dairy facility with compliance with the Water Quality Act and 20.6.2 NMAC.

19           C. **Ownership and Real Property Agreements:**

20           (1) An application shall include the dairy facility owner's name, title, mailing address and  
21 phone number.

22           (a) If more than one person has an ownership interest in the dairy facility, then the  
23 applicant shall list all persons having an ownership interest in the dairy facility, including their names,  
24 titles, mailing addresses and phone numbers.

25           (b) If any corporate entity, including but not limited to a corporation or a limited  
26 liability company, holds an ownership interest in the dairy facility, then the applicant shall also list the  
27 name(s), as filed with the New Mexico Public Regulation Commission, of the corporate entity ~~and~~ the  
28 corporate entity's registered agent's name and address, ~~and the names of each of the corporate entity's~~  
29 ~~directors, officers, members or partners.~~

30           (2) If the applicant is not the owner of record of the real property upon which the dairy  
31 facility is or will be situated, or upon which dairy operations and land application will occur, then the  
32 applicant shall submit a copy of any lease agreement or other agreement which authorizes the use of the  
33 real property for the duration of the term of the requested permit. Lease prices or other price terms may be  
34 redacted.

35           D. **Dairy Facility Information and Location:** An application shall include:

36           (1) the dairy facility name, physical address and county;

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1           (2) the Township, Range and Section for the entire dairy facility, which includes the  
2 production area and fields within the land application area; and

3           (3) the date of initial discharge at the dairy facility.

4           **E. Public Notice Preparation:**

5           (1) An application for a modified or renewed and modified discharge permit shall include  
6 the name of a newspaper of general circulation in the location of the dairy facility for the future display ad  
7 publication, the proposed public location(s) for posting of the 2-foot by 3-foot sign, and the proposed off-  
8 site public location for posting of the 8.5-inch by 11-inch flyer, as required by Subsection B of 20.6.2.3108  
9 NMAC.

10          (2) An application for a renewed discharge permit without modification shall include the  
11 name of a newspaper of general circulation in the location of the dairy facility for the future display ad  
12 publication as required by Subsection C of 20.6.2.3108 NMAC.

13          **F. Pre-Discharge Total Dissolved Solids Concentration in Ground Water:** Pursuant to  
14 Paragraph (3) of Subsection C of 20.6.2.3106 NMAC, an application shall include the pre-discharge total  
15 dissolved solids concentration in ground water, sample source (e.g., upgradient monitoring well, on-site  
16 supply well, nearby off-site supply well) and a copy of the laboratory analysis.

17          **G. ~~Determination of Maximum Daily~~ Discharge Volume:** An application shall include:

18          (1) the proposed maximum daily discharge volume, and a description of the methods and  
19 calculations used to determine ~~the that proposed discharge~~ volume;

20          (2) the identification of all sources of wastewater which may include, but are not limited to,  
21 hospital barns, maternity barns, bottle-washing operations and parlor/equipment washdown;

22          (3) the animal washing method(s) employed and the estimated daily wastewater volume  
23 generated by the method(s); and

24          (4) information regarding other wastewater discharges (i.e., domestic or industrial) at the  
25 dairy facility not generated by dairy operations. Permit identification numbers shall be submitted for those  
26 discharges that are already permitted.

27          **H. Identification and Physical Description of Dairy Facility:** An application shall  
28 include:

29          (1) a scaled map of the entire dairy facility pursuant to Subsection W of 20.6.2.3220  
30 NMAC;

31          (2) the identification of each proposed, existing and closed impoundment, including  
32 information for each impoundment regarding its location, purpose (i.e., to store wastewater or stormwater,  
33 or dispose of it by evaporation), date of original construction, past and existing liner material, date of  
34 current liner installation and storage or evaporative disposal capacity;

35          (3) the identification of each existing, proposed, and previously used field within the land  
36 application area, including information for each field about its location, date of initial application of

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1 wastewater or stormwater, acreage, status with regard to having received wastewater or stormwater (i.e.  
2 never, inactive, active), current method of backflow prevention employed, current method of wastewater  
3 and stormwater application and current method of irrigation water application;

4 (4) the identification of additional wastewater and stormwater system components such as,  
5 but not limited to, sumps and mix tanks, including information for each component regarding its location,  
6 purpose, date of original construction, construction material, dimensions and capacity;

7 (5) the settled solids thickness measurements for each existing wastewater and combination  
8 impoundment pursuant to Subsection D of 20.6.2.3220 NMAC;

9 (6) a description of proposed and existing method(s) of solids separation pursuant to  
10 Paragraph (5) of Subsection C of 20.6.2.3217 NMAC and Subsection F of 20.6.2.3220 NMAC; and

11 (7) a description of the location of all manure, silage and compost storage areas at the dairy  
12 facility; and a description of the method(s) employed to protect each area from stormwater runoff and run-  
13 on, and to minimize leachate.

14 **I. Flow Metering:** An application shall describe a dairy facility's flow metering system  
15 pursuant to Subsections K, L, M, N, O and P of 20.6.2.3220 NMAC and Subsections I and J of 20.6.2.3221  
16 NMAC including:

17 (1) the identification of the method(s) (i.e. pumped versus gravity flow) of wastewater  
18 discharge, stormwater transfer and wastewater and stormwater land application;

19 (2) a description of the existing and proposed flow measurement devices for each flow  
20 method; and

21 (3) the identification of flow meter locations.

22 **J. Depth-to-Most-Shallow Ground Water and Ground Water Flow Direction:**

23 (1) An application for renewal or modification shall provide the depth-to-most-shallow  
24 ground water and indicate ground water flow direction beneath the dairy facility on a ground water  
25 elevation contour map. The ground water elevation contour map shall be developed based upon the most  
26 recent ground water levels obtained with a water level measuring device and survey data from on-site  
27 monitoring wells obtained from a survey, pursuant to Section 20.6.2.3223 NMAC.

28 (2) If a dairy facility does not have a monitoring well intersecting most-shallow ground  
29 water, an applicant shall provide:

30 (a) the depth-to-most-shallow ground water measurements from the one site-specific  
31 test boring pursuant to Subsection Z of 20.6.2.3220 NMAC; and

32 (b) the ground water flow direction of the most-shallow ground water beneath the  
33 dairy facility based upon the most recent regional water level data or published hydrogeologic information.  
34 Survey data from nearby monitoring wells and a ground water elevation contour map indicating the  
35 direction of ground water flow may be included. The sources of all information used to determine ground  
36 water flow direction shall be provided with the application.

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- 1           **K.     Monitoring Wells:** An application shall include:
- 2                 (1) the construction logs for all existing, on-site monitoring wells, which indicate the date of
- 3 installation and well driller; and
- 4                 (2) the identification of monitoring well locations, proposed and existing, pursuant to
- 5 Subsections A and B of 20.6.2.3223 NMAC.
- 6           **L.     Surface Soil Survey and Vadose Zone Geology:** An application shall include:
- 7                 (1) the most recent regional soil survey map and associated descriptions identifying surface
- 8 soil type(s);
- 9                 (2) the lithologic logs from all existing, on-site monitoring wells; and
- 10                (3) if a dairy facility does not have a monitoring well intersecting most-shallow ground
- 11 water, the application shall include the lithologic log obtained from the on-site test boring pursuant to
- 12 Subsection Z of 20.6.2.3220 NMAC to identify the geological profile of the vadose zone.
- 13           **M.     Location Map:** An application shall include a location map with topographic surface
- 14 contours identifying all of the following features located within a one-mile radius of the dairy facility:
- 15                 (1) watercourses, lakebeds, sinkholes, playa lakes and springs (springs used to provide water
- 16 for human consumption shall be so denoted);
- 17                 (2) wells supplying water for a public water system and private domestic water wells;
- 18                 (3) irrigation supply wells; and
- 19                 (4) ditch irrigations systems, acequias, irrigation canals and drains.
- 20           **N.     Flood Zone Map:** An application shall include the most recent 100-year flood zone map
- 21 developed by the Federal Emergency Management Administration, FEMA, documenting flood potential for
- 22 the dairy facility, and a description of any engineered measures used for flood protection.
- 23           **O.     Engineering and Surveying:** An application shall include:
- 24                 (1) plans and specifications for new or improved structures and associated liners proposed
- 25 by the applicant pursuant to Section 20.6.2.3217 NMAC;
- 26                 (2) record drawings and final specifications for existing structures and associated liners. For
- 27 existing impoundments where record drawings and final specifications do not exist, survey data and
- 28 capacity calculations shall be submitted pursuant to Subsection C of 20.6.2.3220 NMAC; and
- 29                 (3) a grading and drainage report and plan pursuant to Paragraph (6) of Subsection C of
- 30 20.6.2.3217 NMAC.
- 31           **P.     Land Application Area:** For a dairy facility with a land application area, an application
- 32 shall include:
- 33                 (1) documentation of irrigation water rights pursuant to Subsection D of 20.6.2.3221
- 34 NMAC;

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1           (2) documentation confirming the existence of infrastructure necessary to distribute and  
2 apply wastewater and stormwater to the land application area pursuant to Subsection G of 20.6.2.3221  
3 NMAC;

4           (3) a nutrient management plan (NMP) pursuant to Subsections K and L of 20.6.2.3221  
5 NMAC; and

6           (4) a written description of the wastewater sampling location(s) between the manure solids  
7 separator(s) and wastewater impoundment(s) pursuant to Subsection C of 20.6.2.3225 NMAC.

8  
9 **20.6.2.3208 APPLICATION REQUIREMENTS FOR A DISCHARGE PERMIT FOR**

10 **CLOSURE:** An application for a discharge permit for closure shall include the information required by  
11 the Subsections B, C, D, E, F, J, K, L, M and N of 20.6.2.3207 NMAC and Paragraphs (1), (2), (3) and (4)  
12 of Subsection H of 20.6.2.3207 NMAC. For dairy facilities with or previously having a land application  
13 area, the application shall also include Paragraph (2) of Subsection P of 20.6.2.3207 NMAC, specifically  
14 pertaining to the past method(s) of wastewater discharge and stormwater application to the land application  
15 area.

16  
17 **20.6.2.3209 ADDITIONAL PUBLIC NOTICE REQUIREMENTS FOR APPLICATIONS FOR**  
18 **NEW DISCHARGE PERMITS:**

19           A. The requirements of this section shall apply to dairy facilities whose application for a  
20 new discharge permit is received by the department after the effective date of the dairy rules.

21           B. Instead of the requirement for public notice specified in Paragraph (2) of Subsection B of  
22 20.6.2.3108 NMAC, the applicant shall provide written notice of the discharge by mail to owners of record  
23 of all properties within a one-mile distance from the boundary of the property where the discharge site is  
24 located. If there are no properties other than properties owned by the discharger within a one-mile distance  
25 of the boundary of the property where the dairy facility is located, the applicant shall provide notice to  
26 owners of record of the next nearest properties not owned by the discharger.

27           C. Proof of notice required by Subsection D of 20.6.2.3108 NMAC shall include an affidavit  
28 of mailing(s) and a list of property owner(s) notified pursuant to Subsection B of this section.

29  
30 **20.6.2.3210 – 20.6.2.3214: [RESERVED]**

31  
32 **20.6.2.3215 PROCEDURES FOR REQUESTING PUBLIC HEARINGS ON PERMITTING**  
33 **ACTIONS FOR DAIRY FACILITIES:**

34           A. Requests for a hearing from any person, including the applicant for a discharge permit, on  
35 the proposed approval of a discharge permit (i.e., a draft discharge permit) or denial of a discharge permit  
36 application shall be postmarked on or before the end of the comment period, and submitted to the  
37 department pursuant to Subsection K of 20.6.2.3108 NMAC. The secretary shall deny requests that do not

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1 meet the requirements of Subsection K of 20.6.2.3108 NMAC and this section. The secretary shall provide  
2 notice of hearing denial by certified mail to the person(s) requesting a hearing.

3       **B.**       The secretary shall deny a request for a hearing on the proposed approval of a discharge  
4 permit for a dairy facility (i.e., a draft discharge permit) disputing conditions contained in the dairy rules.  
5 Requests for a hearing on the proposed approval of a discharge permit for a dairy facility shall identify the  
6 specific additional discharge permit conditions being disputed or requested and the reasons such additional  
7 discharge permit conditions are being disputed or requested. Hearings held upon the secretary's approval  
8 shall be limited in scope to the disputed or requested additional discharge permit conditions identified in  
9 the request for hearing. The secretary shall deny requests for a hearing that fail to identify disputed or  
10 requested additional discharge permit conditions and the reasons why the additional discharge permit  
11 conditions are disputed or requested. The secretary shall provide notice of hearing denial by certified mail  
12 to the person(s) requesting a hearing.

13  
14 **20.6.2.3216       SETBACK REQUIREMENTS FOR DAIRY FACILITIES APPLYING FOR NEW**  
15 **DISCHARGE PERMITS:**

16       **A.**       The setback requirements of this section apply to a dairy facility whose application for a  
17 new discharge permit is received by the department after the effective date of the dairy rules.

18       **B.**       The setback requirements shall be measured as horizontal map distances as of the receipt  
19 date of the application for a new discharge permit by the department.

20       **C.**       If the setback requirements apply to a dairy facility, a permittee shall not propose or  
21 construct structures that violate the setback as determined as of the receipt date of the application for a new  
22 discharge permit by the department.

23       **D.       Production Area Setback Requirements:**

24               (1) The production area, excluding feed storage silos, feed storage barns and liquid feed  
25 tanks, shall be located:

26                       (a) greater than 200 feet from the 100-year flood zone of any watercourse, or from the  
27 ordinary high-water mark of any watercourse for which no 100-year flood zone has been established. This  
28 setback distance shall not apply to ditch irrigations systems, acequias, irrigation canals and drains;

29                       (b) greater than 200 feet (measured from the ordinary high-water mark) from a  
30 lakebed, sinkhole or playa lake;

31                       (c) greater than 200 feet from any spring identified on a US Geological Survey  
32 (USGS) topographic map and not identified as a supply of water for human consumption;

33                       (d) greater than 350 feet from a private domestic water well or spring that supplies  
34 water for human consumption; and

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1 (e) greater than 1000 feet from any water well or spring that supplies water for a  
2 public water system as defined by Part 20.7.10 NMAC, unless a wellhead protection program established  
3 by the public water system requires a greater distance.

4 (2) The requirements of Subparagraph (d) of Paragraph (1) of this subsection shall not apply  
5 to wells or springs that supply water to the dairy facility for human consumption and are located on the  
6 dairy facility.

7 (3) Setback distances for impoundments shall be measured from the top inside edge of the  
8 impoundment; distances for all other features shall be measured from the outer extent of the feature.

9 **E. Land Application Area Setback Requirements:**

10 (1) Any field within a land application area shall be located:

11 (a) greater than 100 feet from the 100-year flood zone of any watercourse, or from the  
12 ordinary high-water mark of any watercourse for which no 100-year flood zone has been established. This  
13 setback distance shall not apply to ditch irrigations systems, acequias, irrigation canals and drains;

14 (b) greater than 100 feet (measured from the ordinary high-water mark) from any  
15 lakebed, sinkhole or playa lake;

16 (c) greater than 100 feet from a private domestic water well or spring that supplies  
17 water for human consumption; and

18 (d) greater than 200 feet from any water well or spring that supplies water for a public  
19 water system as defined by Part 20.7.10 NMAC, unless a wellhead protection program established by the  
20 public water system requires a greater distance.

21 (2) The requirements of Subparagraph (c) of Paragraph (1) of this subsection shall not apply  
22 to wells or springs that supply water for human consumption to the dairy facility and are located on the  
23 dairy facility.

24 (3) Setback distances for fields shall be measured from the outer edge of the field.  
25

26 **20.6.2.3217 ENGINEERING AND SURVEYING REQUIREMENTS FOR ALL DAIRY**  
27 **FACILITIES:**

28 **A. Practice of Engineering:** All plans and specifications, supporting design calculations,  
29 record drawings, final specifications, final capacity calculations, grading and drainage reports and plans,  
30 and other work products requiring the practice of engineering shall bear the seal and signature of a licensed  
31 New Mexico professional engineer pursuant to the New Mexico Engineering and Surveying Practice Act,  
32 Sections 61-23-1 through 61-23-32 NMSA 1978, and the rules promulgated under that authority.

33 **B. Practice of Surveying:** All surveys of wastewater, stormwater, and combination  
34 wastewater/stormwater impoundments, monitoring well locations and casing elevations, and other work  
35 products requiring the practice of surveying shall bear the seal and signature of a licensed New Mexico  
36

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1 professional surveyor pursuant to the New Mexico Engineering and Surveying Practice, Sections 61-23-1  
2 through 61-23-32 NMSA 1978, and the rules promulgated under that authority.

3 **C. Engineering Plans and Specifications Requirements:**

4 (1) **Impoundment Plans and Specifications:** An applicant or permittee proposing or  
5 required to construct a new impoundment or to improve an existing impoundment, including relining of an  
6 existing impoundment, shall submit detailed and complete construction plans and specifications and  
7 supporting design calculations developed pursuant to this section and Section 20.6.2.3220 NMAC. The  
8 applicant or permittee proposing or required to construct an impoundment shall document compliance with  
9 the requirements of the Dam Safety Bureau of the State Engineer pursuant to Section 72-5-32 NMSA 1978,  
10 and rules promulgated under that authority, unless exempt by law from such requirements. The  
11 construction plans and specifications for an improvement(s) to an existing impoundment shall address the  
12 management of wastewater or stormwater during preparation and construction of the improvements.

13 (a) Construction plans and specifications proposed by the applicant or permittee shall  
14 be submitted to the department with the application for a new, renewed or modified discharge permit.

15 (b) Construction plans and specifications not proposed by the applicant or permittee  
16 but required to achieve compliance with the dairy rules shall be submitted to the department within 90 days  
17 of the effective date of the discharge permit.

18 (2) **Impoundment CQA/CQC:** Construction of a new impoundment or improvement to an  
19 existing impoundment shall be done in accordance with a Construction Quality Assurance/Construction  
20 Quality Control (CQA/CQC) Plan. A CQA/CQC Plan shall be included as part of the design plans and  
21 specifications. The CQA/CQC Plan shall outline the observations and tests to be used to ensure that  
22 construction of the impoundment meets, at a minimum, all design criteria, plans and specifications. All  
23 testing and evaluation reports shall be signed and sealed by a licensed New Mexico professional engineer  
24 experienced in lagoon construction and liner installation. The CQA/CQC Plan shall include, at a minimum,  
25 the following elements.

26 (a) The identity of persons responsible for overseeing the CQA/CQC program. The  
27 person responsible for overseeing with the CQA/CQC plan shall be a licensed New Mexico professional  
28 engineer experienced in lagoon construction and liner installation, ~~and have at least three years experience~~  
29 ~~in lagoon construction and lining.~~

30 (b) A discussion of how inspections will be performed.

31 (c) The location, availability, applicability and calibration of testing equipment and  
32 facilities, both field and laboratory.

33 (d) The procedures for observing and testing the liner material.

34 (e) The procedures for reviewing inspection test results and laboratory and field  
35 sampling test results.

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1 (f) The actions to be taken to replace or repair liner material should deficiencies be  
2 identified.

3 (g) The procedures for seaming synthetic liners.

4 (h) The reporting procedures for all inspections and test data.

5 (3) **Impoundment Improvement - Wastewater/Stormwater Management:** An applicant  
6 or permittee proposing or required to improve an existing impoundment, including relining of an existing  
7 impoundment, shall submit a plan for managing wastewater or stormwater during the improvement as part  
8 of the design plans and specifications. The plan for wastewater or stormwater management shall include  
9 the following minimum elements and be implemented upon department approval:

10 (a) a description of how on-going wastewater discharges or stormwater collection will  
11 be handled and disposed of during improvement to the impoundment;

12 (b) a description of how solids and wastewater or stormwater within the impoundment  
13 will be removed and disposed of prior to beginning improvement to the impoundment;

14 (c) a schedule for implementation through completion of the project; and

15 (d) if the plan proposes temporary use of a location for the discharge of wastewater  
16 not authorized by the effective discharge permit, the applicant or permittee shall request temporary  
17 permission to discharge from the department.

18 (4) **Manure Solids Separation Plans and Specifications - New Wastewater System:** An  
19 applicant or permittee proposing or required to construct a new manure solids separator as a component of  
20 a newly designed wastewater storage or disposal system shall submit construction plans and specifications  
21 and supporting design calculations that include the separator, pursuant to this section.

22 (a) Construction plans and specifications proposed by the applicant or permittee shall  
23 be submitted to the department with the application for a new, renewed or modified discharge permit.

24 (b) Construction plans and specifications not proposed by the applicant or permittee  
25 but required to achieve compliance with the dairy rules shall be submitted to the department within 90  
26 days of the effective date of the discharge permit.

27 (5) **Manure Solids Separation Plans and Specifications - Existing Wastewater System:**  
28 An applicant or permittee proposing or required to construct a new manure solids separator as a component  
29 of an existing wastewater storage or disposal system shall submit a scaled design schematic and supporting  
30 documentation, including design calculations. The separator shall be designed to accommodate, at a  
31 minimum, the maximum daily discharge volume authorized by the discharge permit, and the volume of  
32 manure solids associated with the wastewater discharge. Components of the separator that collect, contain  
33 or store manure solids prior to removal or land application shall be designed with an impervious material(s)  
34 to minimize generation and infiltration of leachate.

35 (a) A scaled design schematic and supporting documentation for a proposed separator  
36 shall be submitted to the department with the application for a new, renewed or modified discharge permit.

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1 (b) A scaled design schematic and supporting documentation for a separator not  
2 proposed by the applicant or permittee but required to achieve compliance with the dairy rules shall be  
3 submitted to the department within 90 days of the effective date of the discharge permit.

4 (6) **Grading and Drainage Report and Plan:** An applicant or permittee shall submit with  
5 the application for a new, renewed or modified discharge permit, a grading and drainage report and a  
6 grading and drainage plan, including supplemental information associated with the plan. The submittal  
7 shall include, at a minimum, the following information:

8 (a) A scaled map showing:

9 (i) The dairy facility and the property boundaries of the dairy facility;

10 (ii) All existing and proposed structures at the dairy facility, with the  
11 associated finished floor elevations;

12 (iii) Existing and proposed ground surface contours at two foot vertical  
13 intervals;

14 (iv) All existing and proposed storm-water management structures at the dairy  
15 facility including construction materials, size, type, slope, capacity and inlet and invert elevation of the  
16 structures, as applicable.

17 (b) A copy of the relevant FEMA Flood Insurance Rate Map (FIRM) or Flood  
18 Boundary and Floodway Map with the dairy facility clearly identified along with all Flood Zones;~~The~~  
19 ~~grading and drainage report shall include, at a minimum, the following information: a description of the~~  
20 ~~drainage concept for the dairy facility;~~

21 (c) A description of existing drainage conditions at the dairy facility;

22 (d) A description of the proposed post-development drainage conditions; a description  
23 of the calculations performed to support the drainage analysis; and a map prepared from a 7.5 minute  
24 quadrangle map showing the dairy facility location and drainage basin influences on drainage flows at the  
25 dairy facility from on-site and off-site locations.

26 ~~(b) The grading and drainage plan shall include, at a minimum, the following~~  
27 ~~information: north arrow and scale; property boundaries; delineation of off-site watersheds that contribute~~  
28 ~~drainage to the dairy facility; permanent benchmark locations, descriptions and elevations; existing and~~  
29 ~~proposed land contours; spot elevations at key points, grade breaks, critical locations, floors or pads of~~  
30 ~~existing and proposed structures, and inverts of piping associated with the drainage system; identification~~  
31 ~~of all existing and proposed on-site structures, including drainage features; identification of internal~~  
32 ~~contributory drainage areas, including roof areas, parking lots, and other disturbed areas; flows in cubic~~  
33 ~~feet/second and flow lines defined by arrows and spot elevations; and details of impoundments, inlets,~~  
34 ~~runoffs, emergency spillways, impoundment outlets, slopes, and all other significant drainage structures~~  
35 ~~with contours, cross sections and spot elevations.~~

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1                   (e) Supplemental information supporting the grading and drainage plan shall be  
2 submitted to the department with the plan and shall include, at a minimum, the following information: \_\_\_\_\_

3                   (i) ~~All hydrologic and hydraulic calculations for design storm events~~  
4 ~~used; calculations for both existing and post development drainage conditions;~~

5                   (ii) ~~H~~hydraulic calculations demonstrating capacity or adequacy of existing  
6 and proposed stormwater impoundments;

7                   (iii) ~~H~~hydraulic calculations demonstrating capacity of existing and proposed  
8 conveyance channels to contain and transport runoff to the stormwater impoundment(s); and

9                   (iv) ~~A~~a description of computer software, documents, circulars, manuals, etc.  
10 used to develop the hydrologic and hydraulic calculations.

11                   (7) **Flow Metering Plans and Specifications:** An applicant or permittee proposing or  
12 required to install a flow meter(s) shall submit ~~documentation to support the selection of the proposed~~  
13 ~~device along with~~ construction plans and specifications ~~detailing the installation or construction of for~~ each  
14 device.

15                   (a) Construction plans and specifications proposed by the applicant or permittee shall  
16 be submitted to the department with the application for a new, renewed or modified discharge permit.

17                   (b) Construction plans and specifications not proposed by the applicant or permittee  
18 but required to achieve compliance with the dairy rules shall be submitted to the department within 90  
19 days of the effective date of the discharge permit.

20                   **D. Engineering Design Requirements:**

21                   (1) **Impoundment Capacity Requirements:** ~~Impoundments designed to store wastewater~~  
22 ~~prior to discharging to a land application area or to dispose of wastewater by evaporation shall meet the~~  
23 ~~capacity requirements specified in the dairy rule. The dairy rule does not specify capacity requirements for~~  
24 ~~the containment of stormwater. However, the dairy rule does not exempt a dairy facility from other~~  
25 ~~applicable local, state and federal regulations or laws, including the EPA regulatory requirements for~~  
26 ~~Concentrated Animal Feeding Operations pursuant to 40 Code of Federal Regulations, Parts 122 and 412, as~~  
27 ~~amended.~~

28                   (+2) **Impoundment Capacities – Wastewater or Wastewater/Stormwater Combination:**

29                   (a) Capacity requirements for dairy facilities discharging to a land application area:

30                   (i) The wastewater impoundments intended to store wastewater prior to  
31 discharging to a land application area shall be designed to contain ~~collectively~~ the maximum daily  
32 discharge volume authorized by the discharge permit for a minimum period of 60 days to accommodate  
33 periods when land application is not feasible, while preserving two feet of freeboard. This capacity  
34 requirement may be satisfied by a single wastewater impoundment or by the collective capacity of multiple  
35 impoundments intended to store wastewater or wastewater/stormwater.

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1                   (ii) The combination wastewater/stormwater impoundments intended to contain  
2 both wastewater and stormwater runoff for storage prior to discharging to a land application area shall be  
3 designed to contain ~~collectively~~ the sum of the maximum daily discharge volume authorized by the  
4 discharge permit for a minimum period of 60 days to accommodate periods when land application is not  
5 feasible; and the additional volume intended for the containment of stormwater runoff and direct  
6 precipitation as specified by current EPA regulatory requirements for Concentrated Animal Feeding  
7 Operations pursuant to 40 Code of Federal Regulations, Parts 122 and 412, as amended, while preserving two  
8 feet of freeboard. This capacity requirement may be satisfied by a single wastewater impoundment or by  
9 the collective capacity of multiple impoundments intended to store wastewater or wastewater/stormwater.

10                   (b) Capacity requirements for dairy facilities discharging to an evaporative wastewater  
11 disposal system:

12                   (i) The wastewater impoundments intended to dispose of wastewater by  
13 evaporation shall be designed to contain ~~collectively~~ the maximum daily discharge volume authorized by  
14 the discharge permit for disposal by evaporation, while preserving two feet of freeboard. This capacity  
15 requirement may be satisfied by a single wastewater impoundment or by the collective capacity of multiple  
16 impoundments intended to dispose of wastewater by evaporation.

17                   (ii) The combination wastewater/stormwater impoundments intended to dispose  
18 of both wastewater and stormwater runoff by evaporation shall be designed ~~to contain collectively for~~  
19 disposal by evaporation, the sum of the maximum daily discharge volume authorized by the discharge  
20 permit; and the additional volume intended for the containment of stormwater runoff and direct  
21 precipitation and stormwater runoff and direct precipitation as specified by current EPA regulatory  
22 requirements for Concentrated Animal Feeding Operations pursuant to 40 Code of Federal Regulations, Parts  
23 122 and 412, as amended, for disposal by evaporation while preserving two feet of freeboard. This capacity  
24 requirement may be satisfied by a single combination wastewater/stormwater impoundment or by the  
25 collective capacity of multiple impoundments intended to dispose of wastewater or wastewater/stormwater  
26 by evaporation.

27                   (c) An impoundment designed and used for solids settling shall not be used to satisfy  
28 the impoundment capacity requirements of this subsection.

29 ~~—————(2) **Impoundment Capacity—Stormwater:** Stormwater impoundments intended to contain~~  
30 ~~only stormwater shall be designed to contain stormwater runoff and direct precipitation as specified by~~  
31 ~~current EPA regulatory requirements for Concentrated Animal Feeding Operations pursuant to 40 Code of~~  
32 ~~Federal Regulations, Parts 122 and 412, as amended.~~

33                   (3) **Stormwater Conveyance Channels:** Stormwater conveyance channels shall be  
34 designed in accordance with the grading and drainage report and plan required by this section to contain  
35 and transport stormwater runoff and direct precipitation to stormwater impoundments as specified by current

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1 EPA regulatory requirements for Concentrated Animal Feeding Operations pursuant to 40 Code of Federal  
2 Regulations, Parts 122 and 412, as amended.

3 (4) **Impoundment Design and Construction - General:** Impoundments required to be  
4 synthetically lined wastewater and combination wastewater/stormwater impoundments, and stormwater  
5 impoundments required to achieve compliance with the dairy rules, shall meet the following design and  
6 construction requirements:

7 (a) The inside slopes of an impoundment shall be a maximum of three (horizontal) to  
8 one (vertical), and a minimum of four (horizontal) to one (vertical);

9 (b) The outside slopes of an impoundment shall be a maximum of three (horizontal)  
10 to one (vertical);

11 (c) The sub-grade of an impoundment shall be compacted to a minimum of 95  
12 percent of standard proctor density. If the existing material is unsuitable for compaction, a minimum depth  
13 of 18 inches of suitable material shall be used as subgrade;

14 (d) The subgrade of an impoundment shall provide a firm, unyielding surface with no  
15 sharp changes or abrupt breaks in grade. The finished grade of the floor of an impoundment shall be as  
16 uniform as possible and shall not have surface deviations which vary more than ~~+/~~ plus or minus 1.5  
17 inches from the finished grade; and

18 (e) The minimum dike width of an impoundment shall be ~~eight~~ 12 feet to allow  
19 vehicle traffic for maintenance.

20 (5) **Impoundment Design and Construction - Liner:** Synthetic impoundment liners. All  
21 impoundments shall be lined in accordance with this section, unless otherwise specified in the dairy rules.  
22 Impoundment liners shall meet the following additional design and construction requirements.

23 (a) The liner shall be installed with sufficient slack in the liner material to  
24 accommodate shrinkage due to temperature changes. Folds in the liner material shall not be present in the  
25 completed liner.

26 (b) The sub-grade shall be free of sharp rocks, vegetation and stubble to a depth of at  
27 least six inches below the liner. ~~Liners shall be placed on a sub-grade of sand or fine soil.~~ The surface in  
28 contact with the liner shall be smooth to allow for good contact between liner and sub-grade. The surface  
29 shall be dry during liner installation. ~~The liner installer shall provide the owner with a subgrade acceptance~~  
30 certificate prior to installing the liner indicating acceptance of the earthwork.

31 (c) The liner shall be anchored in an anchor trench. The trench shall be a minimum of  
32 12 inches wide, 12 inches deep and shall be set back at least 24 inches from the top inside edge of the  
33 impoundment.

34 (d) The liner panels shall be oriented such that all sidewall seams are vertical.

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1                   (c) ~~If practicable, decomposing organic materials shall be removed from areas over~~  
2 ~~which a liner will be installed. If such materials remain, a~~ liner vent system shall be installed ~~if an~~  
3 ~~impoundment is installed over areas of decomposing organic materials.~~

4                   (f) Any opening in the liner through which a pipe or other fixture protrudes shall be  
5 sealed in accordance with the liner manufacturer's requirements. Liner penetrations shall be detailed in the  
6 construction plans and record drawings.

7                   (g) The liner shall be installed by, or the installation supervised by, an individual that  
8 has the necessary training and experience as required by the liner manufacturer.

9                   (h) Manufacturer's installation and field seaming guidelines shall be followed.

10                  (i) Liner seams shall be field tested by the installer and verification of the adequacy of  
11 the seams shall be submitted to department along with the record drawings.

12                  (j) Concrete slabs installed on top of a liner for operational purposes shall be  
13 completed in accordance with manufacturer and installer recommendations to ensure liner integrity.

14                  (6) **Impoundment Liner – Wastewater or Wastewater/Stormwater Combination:** An  
15 applicant or permittee proposing or required to construct a new or to improve an existing wastewater or  
16 combination wastewater/stormwater impoundment, shall, at a minimum, utilize a liner meeting the  
17 following requirements.

18                  (a) Where the vertical distance between the seasonal high ground water level and the  
19 finished grade of the floor of the impoundment is less than or equal to 50 feet as documented through the  
20 most recent ground water data obtained from an on-site test boring(s) or monitoring well(s), the  
21 impoundment shall, at a minimum, utilize an upper (primary) and lower (secondary) liner. The upper liner  
22 material shall be a minimum of 60-mil high density polyethylene (HDPE) or other material having  
23 equivalent characteristics with regard to permeability, resistance to degradation by ultraviolet light,  
24 compatibility with the liquids anticipated to be collected in the impoundment, tensile strength, and tear and  
25 puncture resistance. The lower liner material shall be a minimum of 40-mil HDPE or other material having  
26 equivalent characteristics with regard to permeability, compatibility with the liquids anticipated to be  
27 collected in the impoundment, tensile strength, and tear and puncture resistance. A leak detection system  
28 shall be constructed between the upper and lower liners and shall consist of a drainage layer, filter layer,  
29 fluid collection pipes, fluid collection sumps, and fluid removal system.

30                  (i) A drainage layer shall be constructed of granular soil materials or  
31 geosynthetic drainage net (geonet). The drainage material shall have a hydraulic conductivity of  $1 \times 10^{-2}$   
32 centimeters/second or greater. The drainage layer shall be constructed with a slope of at least two percent.

33                  (ii) A filter layer shall be constructed above the drainage layer and below the  
34 upper liner. ~~A filter layer above a granular drainage layer shall be composed of granular soil materials that~~  
35 ~~are finer than the granular drainage layer or a geotextile filter fabric. A geotextile filter fabric shall be used~~

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1 | as a filter layer above a geosynthetic drainage net. A The filter layer shall provide for adequate flow of  
2 fluid through the filter while providing adequate retention of fine particles.

3 (iii) Perforated fluid collection pipes shall be installed to transmit fluid from the  
4 drainage layer to a fluid collection sump(s). Collection pipe material, diameter, wall thickness, and slot  
5 size and distribution shall be sufficient to prevent deflection, buckling, collapse or other failure. Collection  
6 pipes shall be installed with slopes equivalent to the slope of the drainage layer. Collection pipe systems  
7 shall be designed to allow for cleaning of all collection pipes with standard pipe cleaning equipment.

8 (iv) A fluid removal system shall be installed to remove fluid from the leak  
9 detection system. The fluid removal system shall consist of a sump(s), a dedicated pump(s), an automated  
10 pump activation system that activates the pump(s) when a specific fluid level is reached in a sump(s), a  
11 totalizing flow meter to measure the volume of leachate pumped from the system, and an  
12 automated alarm system that provides warning of pump failure.

13 (b) Where the vertical distance from the seasonal high ground water level and the  
14 finished grade of the floor of the impoundment is greater than 50 feet as documented through the most  
15 recent ground water data obtained from an on-site test boring(s) or monitoring well(s), the impoundment  
16 shall, at a minimum, utilize a single liner that is at least 60-mil HDPE or other material having equivalent  
17 characteristics with regard to permeability, resistance to degradation by ultraviolet light, compatibility with  
18 the liquids anticipated to be collected in the impoundment, tensile strength, and tear and puncture  
19 resistance.

20 (7) **Impoundment Liner - Stormwater:** Any applicant or permittee proposing or required  
21 to improve an existing stormwater impoundment pursuant to Subsection B of 20.6.2.3227 NMAC shall, at a  
22 minimum, utilize a liner that is at least 60-mil HDPE or other material having equivalent characteristics  
23 with regard to permeability, resistance to degradation by ultraviolet light, compatibility with the liquids  
24 anticipated to be collected in the impoundment, tensile strength, and tear and puncture resistance.

25 (8) **Separation Between Impoundments and Ground Water:** Impoundments shall not be  
26 constructed in a location where the vertical distance between the seasonal high ground water level and the  
27 finished grade of the floor of the impoundment is less than or equal to four feet as documented through the  
28 most recent ground water data obtained from an on-site test boring(s) or monitoring well(s).

29 (9) **Impoundment Spillways:** Impoundments intended to contain only wastewater shall not  
30 be designed with a spillway.

31  
32 **20.6.2.3218 ADDITIONAL ENGINEERING DESIGN REQUIREMENTS FOR DAIRY**  
33 **FACILITIES WITH A LAND APPLICATION AREA: [RESERVED]**

34

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1 **20.6.2.3219 ADDITIONAL ENGINEERING DESIGN REQUIREMENTS FOR DAIRY**  
2 **FACILITIES DISCHARGING TO AN EVAPORATIVE WASTEWATER DISPOSAL SYSTEM:**  
3 **[RESERVED]**

4  
5 **20.6.2.3220 OPERATIONAL REQUIREMENTS FOR ALL DAIRY FACILITIES:**

6 **A. Notice of Presence of Livestock and Wastewater Discharge:** A permittee shall  
7 provide written notice to the department of the commencement, cessation, or recommencement of  
8 wastewater discharge or the placement, removal, or reintroduction of livestock as follows.

9 (1) **For new dairy facilities.**

10 (a) **Placement of Livestock.** A permittee shall provide written notice to the  
11 department a minimum of ~~90~~30 days before the placement of any livestock at the dairy facility. A  
12 permittee shall provide written verification to the department of the actual date of placement of any  
13 livestock within 30 days of placement.

14 (b) **Commencement of Wastewater Discharge:** A minimum of ~~90~~30 days prior to  
15 the estimated initial wastewater discharge date a permittee shall provide written notice to the department  
16 indicating the date discharge is proposed to commence. A permittee shall provide written verification to  
17 the department of the actual date of discharge commencement within 30 days of commencement.

18 (2) **For existing dairy facilities:**

19 (a) **Removal or Reintroduction of Livestock:** A permittee shall provide written  
20 notice to the department indicating the date of removal of all livestock from the dairy facility or the date of  
21 reintroduction of any livestock at the dairy facility, if all livestock were previously removed, within 30 days  
22 of livestock removal or reintroduction.

23 (b) **Cessation of Wastewater Discharge:** A permittee shall provide written notice to  
24 the department indicating the date wastewater discharge ceased at the dairy facility within 30 days of the  
25 cessation of discharge.

26 (c) **Recommencement of Wastewater Discharge:** Written notification shall be  
27 submitted to the department a minimum of ~~90~~30 days prior to the date wastewater discharge is expected to  
28 recommence. A permittee shall provide written notice to the department of the actual date of discharge  
29 recommencement within 30 days of recommencement.

30 ~~**B. Authorized Use of New and Existing Impoundments:** Impoundments shall meet the~~  
31 ~~liner, design, and construction requirements of Subsection D of 20.6.2.3217 NMAC, except an~~  
32 ~~impoundment in existence on the effective date of these regulations that does not meet the requirements of~~  
33 ~~Paragraphs (4) through (9) of Subsection D of 20.6.2.3217 NMAC may continue to receive wastewater or~~  
34 ~~stormwater provided the water contaminant concentration in a ground water sample and in any subsequent~~  
35 ~~ground water sample collected from a monitoring well(s) intended to monitor the impoundment does not~~  
36 ~~exceed:~~

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- 1 ~~(1) any ground water standard of Section 20.6.2.3103 NMAC, or~~  
2 ~~(2) the water contaminant concentration in a ground water sample collected from the~~  
3 ~~upgradient monitoring well, if the water contaminant concentration associated with the upgradient~~  
4 ~~monitoring well exceeds the ground water standard(s) of Section 20.6.2.3103 NMAC.~~

5 **B. Authorized Use of New and Existing Impoundments:** Impoundments shall meet the  
6 liner, design, and construction requirements of Subsection D of 20.6.2.3217 NMAC; except an  
7 impoundment in existence on the effective date of these regulations that does not meet the requirements of  
8 Paragraphs (4) through (9) of Subsection D of 20.6.2.3217 NMAC may continue to receive wastewater or  
9 stormwater provided the requirements of Paragraphs (1) or (2) of this subsection are met. If the  
10 requirements of Paragraph (1) and Paragraph (2) of this subsection are not met, such an impoundment may  
11 continue to receive wastewater or stormwater provided the requirements of Subsection B of 20.6.2.3227  
12 NMAC are met.

13 (1) The water contaminant concentration in a ground water sample and in any subsequent  
14 ground water sample collected from a monitoring well(s) intended to monitor the impoundment does not  
15 exceed any ground water standard of Section 20.6.2.3103 NMAC.

16 (2) The water contaminant concentration in a ground water sample and in any subsequent  
17 ground water sample collected from a monitoring well(s) intended to monitor the impoundment does not  
18 exceed the water contaminant concentration in a ground water sample collected from the upgradient  
19 monitoring well, if the water contaminant concentration associated with the upgradient monitoring well  
20 exceeds the ground water standard(s) of Section 20.6.2.3103 NMAC. For the purpose of this subsection,  
21 ground water samples obtained from the impoundment monitoring well and the upgradient monitoring well  
22 that are used for comparison of water contaminant concentrations shall be collected within two days of  
23 each other. In the event ground water quality data for the upgradient monitoring well are not submitted by  
24 the permittee, the ground water standard(s) of Section 20.6.2.3103 shall be the applicable standard(s) used  
25 to assess compliance with the requirements of this subsection.

26 **C. Constructed Capacity of Existing Impoundment – Determination:** If record drawings  
27 are unavailable or have not been completed for an impoundment constructed before the effective date of the  
28 dairy rules to indicate the impoundment capacity of each existing wastewater, stormwater, or combination  
29 wastewater/stormwater impoundment, the permittee shall complete an up-to-date survey and capacity  
30 calculation for each impoundment. The permittee shall submit the survey data and capacity calculations to  
31 the department with the application for a renewed or modified discharge permit.

32 **D. Free-Liquid Capacity of Existing Impoundment – Determination:** An applicant or  
33 permittee shall measure the thickness of settled solids in each existing wastewater and combination  
34 wastewater/stormwater impoundment during the twelve-month period prior to the submission of an  
35 application for a renewed or modified discharge permit and in accordance with the following procedure.

- 36 (1) The total surface area of the impoundment shall be divided into nine equal sub-areas.

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1           (2) A settled solids measurement device shall be utilized to obtain one settled solids  
2 thickness measurement (to the nearest half-foot) per sub-area. The nine settled solids measurements shall  
3 be taken on the same day and the date shall be recorded and submitted to the department with the  
4 measurements.

5           (3) The nine settled solids measurements shall be averaged.

6           (4) The total volume of settled solids in the impoundment shall be estimated by multiplying  
7 the average thickness of the solids layer by the area of the top of the settled solids layer. The area shall be  
8 calculated using the impoundment dimensions corresponding to the estimated surface of the settled solids  
9 layer.

10          (5) The estimated volume of settled solids shall be subtracted from the design capacity of the  
11 impoundment (less two feet of freeboard) to estimate the actual free-liquid capacity.

12          (6) The settled solids measurements, calculations, estimation of total settled solids volume  
13 and volume of the actual free-liquid capacity for each impoundment shall be submitted to the department  
14 with the application for a renewed or modified discharge permit.

15          **E. Impoundment Construction or Improvement:** Construction of a new impoundment or  
16 improvements to an existing impoundment, including relining of an existing impoundment, shall be  
17 performed in accordance with the construction plans and specifications and supporting design calculations  
18 submitted with the application for a new, renewed or modified discharge permit, or those submitted after  
19 issuance of a discharge permit to achieve compliance with the dairy rules. An applicant or permittee shall  
20 notify the department at least five working days before starting construction or improvement of an  
21 impoundment to allow for an inspection by department personnel. An applicant or permittee shall submit  
22 to the department a Construction Certification Report bearing the seal and signature of a licensed New  
23 Mexico professional engineer verifying that installation and construction was completed pursuant to  
24 Subsection C of 20.6.2.3217 NMAC. The Construction Certification Report shall include: record  
25 drawings, final specifications, final capacity calculations and the CQA/CQC report.

26           (1) For new dairy facilities, impoundment construction shall be completed as follows:

27           (a) wastewater impoundment construction shall be completed and the Construction  
28 Certification Report shall be submitted to the department before discharging wastewater at the dairy  
29 facility;

30           (b) combination wastewater/stormwater impoundment construction shall be completed  
31 and the Construction Certification Report shall be submitted to the department before placing any livestock  
32 at the dairy facility; and

33           (c) stormwater impoundment construction shall be completed and the Construction  
34 Certification Report shall be submitted to the department before placing any livestock at the dairy facility.

35           (2) For existing dairy facilities, impoundment construction shall be completed:

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1 (a) within one year of the effective date of the discharge permit, if construction of a  
2 new impoundment or improvement of an existing impoundment is required to achieve compliance with the  
3 dairy rules, or pursuant to the contingency timeframe specified in Subsection B of 20.6.2.3227 NMAC  
4 when invoked after the effective date of a discharge permit issued pursuant to the dairy rules; and

5 (b) the Construction Certification Report shall be submitted to the department within  
6 90 days of completion of impoundment construction.

7 **F. Manure Solids Separator Installation:** A permittee shall employ manure solids  
8 separation. All wastewater discharges to an impoundment shall be made through a manure solid separator.

9 (1) A permittee installing a new wastewater storage or disposal system shall, before  
10 discharging to the new system, construct a manure solids separator(s) in accordance with the construction  
11 plans and specifications submitted with the application for a new, renewed or modified discharge permit, or  
12 those submitted after issuance of a discharge permit to achieve compliance with the dairy rules. Before  
13 discharging to the new system, the permittee shall submit to the department confirmation of solids  
14 separator construction, including separator type(s) and location(s).

15 (2) If an existing dairy facility does not employ manure solids separation, the permittee shall  
16 construct a manure solids separator(s) within 150 days of the effective date of the discharge permit. The  
17 permittee shall submit confirmation of solids separator construction, including separator type(s) and  
18 location(s), to the department within 180 days of the effective date of the discharge permit.

19 **G. Grading and Drainage Report and Plan – Submittal and Implementation:** An  
20 applicant or permittee shall complete a new, or improve an existing grading and drainage system, in  
21 accordance with the Grading and Drainage Report and Plan required by Subsection C of 20.6.2.3217  
22 NMAC and submitted with the application for a new, renewed, or modified discharge permit. An applicant  
23 or permittee shall submit a post-development drainage report, including record drawings, bearing the seal  
24 and signature of a licensed New Mexico professional engineer.

25 (1) For new dairy facilities, the grading and drainage system shall be completed and the  
26 post-development drainage report shall be submitted to the department before placing any livestock at the  
27 dairy facility.

28 (2) For existing dairy facilities, the improvements to the grading and drainage system shall  
29 be completed within one year of the effective date of the discharge permit. The post-development drainage  
30 report shall be submitted to the department within 90 days of completion of improvements.

31 **H. Stormwater Conveyance and Collection:** A permittee shall divert stormwater from the  
32 corrals and other applicable areas at the dairy facility (i.e., calf pens, alleys, feed storage and mixing, etc.)  
33 ~~into the stormwater or combination wastewater/stormwater impoundment(s)~~ in accordance with the grading  
34 and drainage plan required by Subsection C of 20.6.2.3217 NMAC ~~and as specified by current EPA~~  
35 ~~regulatory requirements for Concentrated Animal Feeding Operations pursuant to 40 Code of Federal~~

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1 | ~~Regulations, Parts 122 and 412, as amended. Stormwater shall be conveyed in a manner that conveyance~~  
2 | ~~channels shall be constructed and maintained to minimize~~ ponding and infiltration of stormwater.

3 |       **I. Stormwater Management – Unlined Impoundment:** A permittee shall transfer  
4 | stormwater collected in an unlined impoundment(s) to the wastewater impoundment(s) or the distribution  
5 | system for the land application area after a storm event to minimize the potential for movement to ground  
6 | water, and to restore the free capacity required by Subsection D of 20.6.2.3217 NMAC. Operational pumps  
7 | shall be available at the dairy facility at all times for the transfer of stormwater from stormwater  
8 | impoundment(s) to the wastewater impoundment(s) or the distribution system for the land application area,  
9 | as authorized by a discharge permit.

10 |       **J. Stormwater Management – Lined Impoundment:** A permittee shall transfer  
11 | stormwater collected in a synthetically lined impoundment(s) to the wastewater impoundment(s) or the  
12 | distribution system for the land application area after a storm event to restore the free capacity required by  
13 | Subsection D of 20.6.2.3217 NMAC. Operational pumps shall be available at the dairy facility at all times  
14 | for the transfer of stormwater from stormwater impoundment(s) to the wastewater impoundment(s) or the  
15 | distribution system for the land application area, as authorized by a discharge permit.

16 |       **K. Flow Meter Installation:** A permittee shall employ a flow metering system that utilizes  
17 | flow measurement devices (flow meters) to measure the volume of wastewater discharged at the dairy  
18 | facility. Flow meters shall be installed in accordance with the plans and specifications submitted with the  
19 | application for a new, renewed or modified discharge permit, or those submitted after issuance of a  
20 | discharge permit to achieve compliance with the dairy rules, pursuant to this section, Subsection C of  
21 | 20.6.2.3217 NMAC, and Subsections I and J of 20.6.2.3221 NMAC. Flow meters shall be physically and  
22 | permanently labeled with the discharge permit number, meter identification nomenclature as specified in a  
23 | discharge permit, and the month and year of meter installation. Confirmation of installation shall include a  
24 | description of the device type, manufacturer, meter identification, location, record drawings, and the results  
25 | of the initial field calibration completed pursuant to Subsection E of 20.6.2.3224 NMAC.

26 |           (1) An applicant or permittee for a new dairy facility shall install flow meters and submit  
27 | confirmation of flow meter installation to the department before discharging at the dairy facility.

28 |           (2) An applicant or permittee for an existing dairy facility shall install flow meters within  
29 | 150 days of the effective date of the discharge permit and submit confirmation of flow meter installation to  
30 | the department within 180 days of the effective date of the discharge permit.

31 |       **L. Flow Metering Methods:** Flow metering shall be accomplished by the following  
32 | methods.

33 |           (1) For pumped flow discharge or transfer situations, an applicant or permittee shall install a  
34 | closed-pipe velocity sensing totalizing flow meter(s) on the pressurized discharge or transfer line(s).

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1           (2) For gravity flow discharge or transfer situations, an applicant or permittee shall install an  
2 open-channel primary flow measuring device(s) (flume or weir), equipped with head sensing and totalizing  
3 mechanisms, on the discharge or transfer line(s).

4           **M. Flow Meter Locations:** An applicant or permittee shall identify flow meter locations in  
5 the application for a new, renewed or modified discharge permit. All flow meters shall be located pursuant  
6 to this section and Subsections I and J of 20.6.2.3221 NMAC, and indicated on the scaled map required by  
7 Subsection W of this section.

8           **N. Authorized Use of Existing Flow Meters:** An applicant or permittee proposing to use  
9 an existing flow meter(s) shall submit documentation demonstrating that the existing flow meter(s) is  
10 installed consistent with this section, and Subsections I and J of 20.6.2.3221 NMAC, as appropriate. The  
11 proposal shall be submitted with an application for a new, renewed and modified discharge permit and shall  
12 include the following documentation:

13           (1) the location of each existing flow meter indicated on the scaled map required by  
14 Subsection W of this section and the identification of the wastewater discharge, or wastewater or  
15 stormwater application it is intended to measure;

16           (2) a copy of the record drawings or manufacturer plans and technical specifications specific  
17 to each existing flow meter; and

18           (3) a field calibration report for each existing flow meter, completed pursuant to Subsection  
19 E of 20.6.2.3224 NMAC.

20           **O. Flow Metering - Wastewater to Impoundment:** A permittee shall install flow meters  
21 to measure the volume of wastewater discharged from all wastewater sources to the wastewater or  
22 combination wastewater/stormwater impoundment(s). The flow meter(s) shall be installed on the discharge  
23 line(s) from all wastewater sources to the wastewater impoundment(s). Meter installation and confirmation  
24 of meter installation shall be performed pursuant to this section.

25           **P. Flow Meter Inspection and Maintenance:** A permittee shall visually inspect flow  
26 meters on a daily basis for evidence of malfunction. If a visual inspection indicates a flow meter is not  
27 functioning to measure flow, the permittee shall repair or replace the meter within 30 days of discovery.  
28 The repaired or replaced flow meter shall be installed and calibrated pursuant to the dairy rules.

29           (1) For repaired meters, the permittee shall submit a report to the department with the next  
30 quarterly monitoring report following the repair that includes a description of the malfunction; a statement  
31 verifying the repair; and a flow meter field calibration report completed pursuant to Subsection E of  
32 20.6.2.3224 NMAC.

33           (2) For replacement meters, the permittee shall submit a report to the department with the  
34 next quarterly monitoring report following the replacement that includes plans and specifications for the  
35 device pursuant to Subsection C of 20.6.2.3217 NMAC, and a flow meter field calibration report completed  
36 pursuant to Subsection E of 20.6.2.3224 NMAC.

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1           **Q. Impoundment Inspection and Maintenance:** A permittee shall maintain  
2 impoundments to prevent conditions which could affect the structural integrity of the impoundments and  
3 associated liners. Such conditions include, but are not limited to, erosion damage; animal burrows or other  
4 animal damage; the presence of vegetation including aquatic plants, weeds, woody shrubs or trees growing  
5 within five feet of the top inside edge of a sub-grade impoundment, within five feet of the toe of the outside  
6 berm of an above-grade impoundment, or within the impoundment itself; evidence of seepage; evidence of  
7 berm subsidence; and the presence of large debris or large quantities of debris in the impoundments. A  
8 permittee shall inspect impoundments and surrounding berms on a monthly basis to ensure proper  
9 condition and control vegetation growing around the impoundments in a manner that is protective of the  
10 liners. Within 24 hours of discovery, a permittee shall report to the department any evidence of damage  
11 that threatens the structural integrity of a berm or liner of an impoundment or that may result in an  
12 unauthorized discharge. A permittee is not required to report routine berm maintenance to the department.

13           **R. Leak Detection System Inspection and Maintenance:** A permittee shall inspect and  
14 maintain impoundments utilizing primary and secondary liners and equipped with leak detection systems as  
15 follows:

16           (1) leachate accumulation within the leak detection system shall be returned to the respective  
17 impoundment utilizing an automatically activated pump to minimize hydraulic head on the secondary liner;  
18 and

19           (2) the permittee shall inspect the sump(s), dedicated pump(s), automated pump activation  
20 system, automated alarm system and totalizing flow meter associated with the leak detection system on a  
21 monthly basis for evidence of malfunction. If an inspection indicates malfunction of any of these  
22 components, the permittee shall repair the component(s) within 30 days of discovery. The permittee shall  
23 notify the department of component malfunctions and repairs made to components within 60 days of  
24 discovery.

25           **S. Pipe and Fixture Inspection and Maintenance:** A permittee shall maintain pipes and  
26 fixtures utilized for the conveyance or distribution of wastewater or stormwater at the dairy facility to  
27 prevent the unauthorized release of wastewater or stormwater. The permittee shall visually inspect pipes  
28 and fixtures on a ~~daily-weekly~~ basis for evidence of leaks or failure, ~~and shall maintain written records at~~  
29 ~~the dairy facility of all such inspections including repairs to the pipes and fixtures.~~ Where pipes and  
30 fixtures cannot be visually inspected because they are buried, the permittee shall inspect the area directly  
31 surrounding the features for evidence of leaks or failure (e.g., saturated surface soil, surfacing wastewater,  
32 etc.). If there is evidence an unauthorized discharge has resulted from damaged or faulty pipe(s) or  
33 fixture(s), the permittee shall repair or replace the pipe(s) or fixture(s) within ~~24-72~~ hours of discovery.  
34 The permittee shall report the unauthorized discharge to the department pursuant to Section 20.6.2.1203  
35 NMAC.

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1           **T. Leachate Management - Manure Solids Separation System:** A permittee shall  
2 manage the solids captured by and removed from the manure solids separation system(s) and stored at the  
3 dairy facility before removal or land application to minimize generation and infiltration of leachate.

4 ~~Leachate from manure solids removed from the manure solids separation system shall be collected and~~  
5 ~~contained on an impervious surface before disposal.~~ The manure solids removed from the manure solids  
6 separation system and leachate generated from those solids shall be collected and contained on an  
7 impervious surface before disposal.

8           **U. Leachate Management – Manure and Compost Storage:** Unless land application of  
9 manure solids and composted materials is authorized by a discharge permit, a permittee shall remove  
10 manure solids and composted material from the dairy facility. A permittee shall minimize the generation  
11 and infiltration of leachate from stockpiled manure solids and composted material before removal from the  
12 dairy facility by diverting stormwater run-on and run-off, and preventing ~~the ponding of water~~ within areas  
13 used for manure and compost stockpiling.

14           **V. Leachate Management – Silage Storage:** ~~A permittee shall minimize the ponding of~~  
15 ~~leachate from silage storage areas.~~ A permittee shall minimize the generation and infiltration of leachate  
16 from silage storage areas and prevent ponding within silage storage areas. Leachate generated from the  
17 silage storage areas shall be collected and contained on an impervious surface before disposal.

18           **W. Scaled Map of Dairy Facility:** An applicant or permittee shall submit a scaled map of  
19 the dairy facility to the department with an application for a new, renewed or modified discharge permit.  
20 The map shall be clear and legible, and drawn to a scale such that all necessary information is plainly  
21 shown and identified. The map shall show the scale in feet or metric measure, a graphical scale, a north  
22 arrow, and the effective date of the map. Documentation identifying the means used to locate the mapped  
23 objects (i.e., global positioning system (GPS), land survey, digital map interpolation, etc.) and the relative  
24 accuracy of the data (i.e., +/- XX within a specified distance expressed in feet or meters) shall be included  
25 with the map. Any object that cannot be directly shown due to its location inside of existing structures, or  
26 because it is buried without surface identification, shall be identified on the map in a schematic format and  
27 identified as such. The map shall include the following objects:

- 28           (1) the overall dairy facility layout (barns, feed storage areas, pens, etc.);
- 29           (2) the location of all sumps;
- 30           (3) the location of all manure solids separators;
- 31           (4) the location of all wastewater, stormwater, and combination impoundments;
- 32           (5) the location of all mix tanks;
- 33           (6) the location and acreage of each field within the land application area;
- 34           (7) the location of all monitoring wells;
- 35           (8) the location of all irrigation wells;
- 36           (9) the location of all meters measuring wastewater discharges to and from impoundments;

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- 1           (10) the location of all meters measuring stormwater applied to the land application area;
- 2           (11) the location of all fixed pumps for discharge and transfer of wastewater or stormwater;
- 3           (12) the location of all wastewater and stormwater distribution pipelines;
- 4           (13) the location of each ditch irrigation system, acequia, irrigation canal and drain;
- 5           (14) the location of all backflow prevention ~~methods or devices~~;
- 6           (15) all wastewater sampling locations, with the exception of impoundments for disposal by
- 7 evaporation; and
- 8           (16) location of all septic tanks and leachfields.

9           **X. Scaled Map of Dairy Facility - Updates:** Following completion of additions or changes

10 to the dairy facility layout which affects items required by Subsection W of this section, a permittee shall

11 update and resubmit to the department the dairy facility map required by this section within 90 days of any

12 additions or changes to the dairy facility layout which affects items required by Subsection W of this

13 section.

14           **Y. Animal Mortality Management:** All animal mortalities intended to be disposed of

15 (buried or composted) on a dairy facility shall be managed in accordance with the following requirements:

- 16           (1) only mortalities originating at the dairy facility may be disposed of at the dairy facility;
- 17           (2) mortalities shall not be stored or buried within 200 feet (measured as horizontal map
- 18 distance) from private or public wells, or any watercourse;
- 19           (3) mortalities shall not be stored or buried within 100 feet (measured as horizontal map
- 20 distance) from the 100-year flood zone of any watercourse, as defined by the most recent Federal
- 21 Emergency Management Administration, FEMA, map;
- 22           (4) stormwater run-on to disposal areas shall be prevented by use of berms or other physical
- 23 barriers; and
- 24           (5) mortalities disposed of by burial shall be placed in a pit(s) where the vertical distance
- 25 between the seasonal high ground water level and the floor of the pit(s) is greater than 30 feet as
- 26 documented through the most recent ground water data obtained from an on-site test boring(s) or
- 27 monitoring well(s).

28           ~~**Z. Determination of Depth to Most Shallow Ground Water and Lithology - Test**~~

29 ~~**Boring:** An applicant or permittee for a dairy facility without a monitoring well intersecting most shallow~~

30 ~~ground water shall provide to the department the depth to most shallow ground water and a lithologic log~~

31 ~~determined by one site-specific test boring with the application for a new, renewed or modified discharge~~

32 ~~permit. The test boring shall be drilled in the area of lowest elevation within the production area. The~~

33 ~~boring advancement shall cease upon encountering most shallow ground water. Depth to most shallow~~

34 ~~ground water shall be measured immediately upon ceasing drilling of the boring and again 24 hours~~

35 ~~following ceasing drilling. Lithology shall be characterized pursuant to American Society of Testing and~~

36 ~~Materials (ASTM) Test Method D 2487 or D 2488 or characterized using standard visual, geologic or soil~~

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~~Descriptions that shall include lithology, grain size, color (Munsell Soil Color Charts may be used), texture, sorting, percent gravel and degree of induration.~~

**Z. Determination of Ground Water Conditions:** An applicant or permittee for a dairy facility without a monitoring well from which depth-to-most-shallow ground water can be measured in accordance with the procedure required by Paragraph (1) of Subsection F of 20.6.2.3223 NMAC shall evaluate ground water conditions by the following methods.

(1) The applicant or permittee shall obtain records from the Office of the State Engineer for all wells on file with the Office of the State Engineer located within one mile of the boundary of the dairy facility. The applicant or permittee shall submit to the department ~~information in~~ tabular format the following information obtained from Office of the State Engineer records: ~~for all wells on file with the Office of the State Engineer located within one mile of the boundary of the dairy facility. The information obtained from well records shall indicate~~ the well identification information; location of each well by latitude/longitude and township, range, and section; use of each well; depth to ground water in each well; and total depth of each well.

(2) If any well record information submitted pursuant to Paragraph (1) of this subsection indicates that depth to ground water is less than 100 feet, or in lieu of the requirement of Paragraph (1) of this subsection, the applicant or permittee shall conduct the following activities.

(i) The applicant or permittee shall drill one site-specific test boring to the depth of most-shallow ground water or a depth of 750 feet (measured from the ground surface), whichever is encountered first. The test boring shall be drilled in an area of low elevation within the production area outside of an existing or proposed impoundment.

(ii) The applicant or permittee shall describe the lithology from the ground surface to the completed borehole depth and document the depth of most-shallow ground water or the absence of ground water within 750 feet of the ground surface. If ground water is encountered within 750 feet of the ground surface, the depth of most-shallow ground water shall be measured immediately upon ceasing drilling of the boring and again 24 hours following ceasing drilling. Lithology shall be characterized pursuant to American Society of Testing and Materials (ASTM) Test Method D 2487 or D 2488 or characterized using standard visual geologic or soils descriptions that shall include lithology, grain size, color (Munsell Soil Color Charts may be used), texture, sorting, percent gravel and degree of induration. The lithologic log and most-shallow ground water information shall be submitted to the department with the application for a new, renewed or modified discharge permit.

(iii) Upon completion of ground water measurements, unless the borehole is completed as a monitoring or production well, the borehole shall be immediately abandoned by emplacing neat cement grout, bentonite based plugging material, or other sealing material approved by the state engineer in accordance with Part 19.27.4 NMAC in the borehole from the bottom of the borehole to the ground surface. A written record of borehole abandonment shall be submitted to the department with the

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1 application for a new, renewed or modified discharge permit and shall describe the type of grout used and  
2 the depth interval sealed with grout. If a monitoring well is constructed in the borehole, the monitoring  
3 well shall be constructed in accordance with Subsection D of 20.6.2.3223 NMAC, and a construction log  
4 including well record information specified by Part 19.27.4 NMAC shall be submitted to the department  
5 with the application for a new, renewed or modified discharge permit.

6 **AA. Domestic Wastewater:** Domestic wastewater shall not be commingled with wastewater  
7 or stormwater generated at a dairy facility. Domestic wastewater shall be treated or disposed of pursuant to  
8 Part 20.7.3 NMAC or a discharge permit issued solely for the discharge of domestic wastewater, as  
9 appropriate.

10  
11 **20.6.2.3221 ADDITIONAL OPERATIONAL REQUIREMENTS FOR DAIRY FACILITIES**  
12 **WITH A LAND APPLICATION AREA:**

13 **A. Impoundment Storage Capacity Management – Wastewater and**  
14 **Wastewater/Stormwater Combination:** A permittee shall operate and maintain a wastewater or  
15 combination wastewater/stormwater impoundment(s) for the purpose of storing wastewater prior to  
16 discharging to the land application area. A permittee shall manage wastewater or combination  
17 wastewater/stormwater impoundments to maintain the free-liquid capacity and two feet of freeboard  
18 required by Subsection D of 20.6.2.3217 NMAC.

19 **B. Prohibition of Irrigation Water Storage in Permitted Impoundments:** A permittee  
20 shall not introduce irrigation water into any impoundment authorized by a discharge permit for the storage  
21 of wastewater or stormwater.

22 **C. Authorized Land Application of Wastewater and Stormwater:** A permittee shall  
23 apply wastewater and stormwater to fields within the land application area, up to the maximum acreage of  
24 irrigated cropland specifically authorized by a discharge permit. Wastewater and stormwater shall be  
25 distributed uniformly over the field at the planned rate consistent with the nutrient management plan  
26 (NMP); ~~applied uniformly over the fields in which application is occurring, and~~ ponding shall be  
27 minimized.

28 **D. Irrigation Water Rights – Documentation:** An applicant or permittee shall submit  
29 documentation of irrigation water rights from the Office of the State Engineer for all fields within the land  
30 application area to the department with the application for a new, renewed or modified discharge permit.  
31 Land application shall not be authorized unless the documentation demonstrates adequate water rights are  
32 held for irrigation to produce and harvest the crops necessary for the removal of nitrogen while the permit  
33 is in effect as required in this section.

34 **E. Land Application Area – Fresh Irrigation Water Required:** Wastewater shall only be  
35 applied to fields within the land application area receiving fresh irrigation water. Fresh irrigation water  
36 shall be used as the primary source to meet the water consumptive needs of the crop to support crop

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1 production and nutrient removal. Wastewater and stormwater are intended as sources of crop nutrients and  
2 shall not be used as a primary source to meet the water consumptive needs of the crop.

3 **F. Wastewater/Irrigation Water Blending:** A permittee shall not combine wastewater  
4 with irrigation water in an impoundment, ~~or in the fresh irrigation water supply lines.~~ Wastewater may be  
5 blended in-line (i.e., fresh irrigation water supply lines) when fresh water irrigation lines are equipped with  
6 a reduced pressure principle backflow prevention assembly (RP). Wastewater may also be blended in a  
7 mix-tank(s), applied alternately in the same irrigation line which has been physically disconnected from  
8 supply wells, or applied in a separate line, as authorized by a discharge permit.

9 **G. Land Application Area – Existing Infrastructure:** An applicant or permittee shall  
10 submit documentation for the existing infrastructure necessary to transfer, distribute and apply wastewater  
11 or stormwater to ~~all fields within the land application area that have previously received~~will receive  
12 wastewater or stormwater to the department with the application for a new, renewed or modified discharge  
13 permit. The documentation shall consist of a narrative statement and photographic documentation that  
14 confirm the existing land application distribution system including the type(s) and location(s) of the  
15 systems, and the method(s) of backflow prevention employed.

16 **H. Land Application Area – New Infrastructure:** Before the initial application of  
17 wastewater or stormwater to any field within the land application area that has not previously received  
18 wastewater or stormwater, an applicant or permittee shall install a land application distribution system to  
19 distribute wastewater and stormwater to ~~all those fields, that will be receiving wastewater and stormwater.~~  
20 The land application distribution system shall be utilized to distribute and apply wastewater and stormwater  
21 to fields within the land application area to meet the requirements of this section. Before the initial  
22 application of wastewater or stormwater to any field within the land application area, an applicant or  
23 permittee shall submit documentation confirming installation of the land application distribution system,  
24 including the type(s) and location(s) of the system(s), and the method(s) employed for backflow  
25 prevention.

26 **I. Flow Metering - Wastewater to Land Application Area:** A permittee shall install flow  
27 meters to measure the volume of wastewater discharged from the wastewater or combination  
28 wastewater/stormwater impoundments to the land application area. The flow meter(s) shall be installed on  
29 the discharge line(s) from the wastewater impoundment(s) to the distribution system for the land  
30 application area. Meter installation and confirmation of meter installation shall be performed pursuant to  
31 Subsection K, L, and N of 20.6.2.3220 NMAC.

32 **J. Flow Metering - Stormwater to Land Application Area:** For a dairy facility  
33 transferring stormwater from a stormwater impoundment directly to a distribution system for the land  
34 application area, a permittee shall install flow meters to measure the volume of stormwater applied directly  
35 to the land application area. The flow meter(s) shall be installed on the transfer line(s) from the stormwater  
36 impoundment(s) to the distribution system for the land application area. Meter installation and

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1 confirmation of meter installation shall be performed pursuant to Subsection K, L, and N of 20.6.2.3220  
2 NMAC.

3           **K. Nutrient Management Plan:** Nutrients and other constituents present in wastewater and  
4 stormwater shall be applied to irrigated cropland under cultivation in accordance with the requirements of a  
5 nutrient management plan (NMP) submitted to the department with the application for a new, renewed, or  
6 modified discharge permit. The amount of nitrogen from all combined nitrogen sources, including but not  
7 limited to wastewater, stormwater, manure solids, composted material, ~~irrigation~~ irrigation water and other  
8 additional fertilizer(s), along with residual soil nitrogen and nitrogen credits from leguminous crops, shall  
9 be applied to each field within the land application area in accordance with the NMP. The NMP shall be  
10 developed through utilization of the natural resources conservation service (NRCS) national comprehensive  
11 nutrient management plan development templates as adopted by the New Mexico NRCS New Mexico Field  
12 Office and in accordance with the NRCS nutrient management conservation practice standard for New  
13 Mexico, nutrient management - code 590. The NMP shall contain all components identified in the Natural  
14 Resources Conservation Service General Manual Title 190, Part 402, and the Natural Resources  
15 Conservation Service Conservation Practice Standard 590 for New Mexico. The NMP shall be developed,  
16 signed and dated annually by an individual certified by the American Society of Agronomy as a Certified  
17 Crop Advisor (CCA) or Certified Professional Agronomist (CPAg) and by an individual certified by the  
18 New Mexico Natural Resources Conservation Service as a Nutrient Management Planner, supervisor,  
19 or other comparable nutrient management plan. Plant material and soil sampling protocols in the NMP  
20 shall be, at a minimum, equivalent to the requirements of Subsections I, K, and L of 20.6.2.3225 NMAC.  
21 The NMP shall identify the method of crop removal to be employed. The NMP shall be developed for the  
22 term of the discharge permit, updated annually, and implemented pursuant to the dairy rules. The permittee  
23 shall submit annual updates to the NMP to the department in the monitoring report due by May 1 of each  
24 year.

25           **L. Crop Removal – Mechanical or Grazing:** A permittee shall remove crops from fields  
26 within the land application area by mechanical harvest unless an alternative proposal for the use of grazing  
27 is submitted with the application for a new, renewed, or modified discharge permit. If grazing is the  
28 method proposed for crop removal, the nutrient management plan (NMP) prepared pursuant to Subsection  
29 K of this section shall include a proposal for the use of grazing for crop removal by means of an actively  
30 managed rotational grazing system which promotes uniform grazing and waste distribution throughout the  
31 field(s) (and pastures within the field). Proposals shall quantify the degree of nitrogen removal expected to  
32 be achieved by grazing, and shall provide scientific documentation supporting the estimated nitrogen  
33 removal and justification for the selection of input parameters used in calculations or computer modeling.  
34 The NMP proposing grazing for crop removal shall be implemented in its entirety. Annual updates to the  
35 NMP shall include updates to the grazing plan as well as report actual weight gains, actual nitrogen uptake

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1 of the crop, and estimated crop and nutrient removal from the previous season. An NMP which proposes  
2 grazing for crop removal shall also include, at a minimum, the following elements:

- 3 (1) the length of the grazing season;
- 4 (2) the size and number of animals to be grazed;
- 5 (3) the estimated weight gain of animals to be grazed, or estimated intake for maintenance of  
6 milk production;
- 7 (4) the calculations to determine stocking rates, total acreage needed and residency  
8 period;
- 9 (5) the plant species used to establish pastures and the pasture renovation practices to be  
10 employed;
- 11 (6) the yield of plant species grown in each pasture and the forage supplied on a monthly  
12 basis; and
- 13 (7) the grazing management system employed and a map indicating key features of the  
14 system including water tanks, fencing, and pasture layout with numbering system and acreage of each  
15 pasture.

16 **M. Crop Removal - Changes to Method(s):** If a permittee proposes to change the  
17 method(s) (i.e., mechanical versus grazing) of crop removal on any field within the land application area  
18 authorized by the discharge permit, the permittee shall apply to modify the discharge permit. The permittee  
19 shall submit an application which includes the proposed change(s) pursuant to Subsection K and L of this  
20 section. The permittee shall not implement the changes unless the department issues a modified permit  
21 approving the changes.

22 **N. Irrigation Ditches – Inspection and Maintenance:** Irrigation ditches used to land apply  
23 wastewater or stormwater at a dairy facility shall be concrete-lined with sealed expansion joints. The  
24 permittee shall visually inspect the ditch system on a monthly basis to ensure proper maintenance. Any  
25 damage to a lined ditch shall be repaired immediately. A log shall be kept on-site documenting the  
26 inspection findings and repairs made, and the log shall be made available to the department upon request.

27 **O. Backflow Prevention:** A permittee shall protect all water wells used within the land  
28 application distribution system from contamination by wastewater or stormwater backflow by installing  
29 and maintaining backflow prevention methods or devices. Backflow prevention shall be achieved by a  
30 total disconnect (physical air gap separation of at least two times the pipe diameter or complete piping  
31 separation when wastewater is being pumped) or by the installation of a reduced pressure principal  
32 backflow prevention assembly (RP) between the fresh irrigation water supply and wastewater and  
33 stormwater delivery systems.

- 34 (1) A permittee for a new dairy facility shall install backflow prevention methods or devices  
35 and submit written confirmation of installation to the department before discharging at the dairy facility.

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1           (2) A permittee for an existing dairy facility that lacks backflow protection as required by  
2 this subsection shall install backflow prevention methods or devices within 90 days of the effective date of  
3 the discharge permit. The permittee shall submit written confirmation of installation to the department  
4 within 180 days of the effective date of the discharge permit.

5           **P. Backflow Prevention By Reduced Pressure Principle Backflow Prevention Assembly**  
6 - **Inspection and Maintenance:** A permittee shall have each reduced pressure principle backflow  
7 prevention assembly (RP) inspected and tested by a certified backflow prevention assembly tester at the  
8 time of installation, repair, or relocation, and at least on an annual schedule thereafter. The backflow  
9 prevention assembly tester shall have successfully completed a 40-hour backflow prevention course based  
10 on the University of Southern California's backflow prevention standards and test procedures, and obtained  
11 certification demonstrating completion. A malfunctioning RP device shall be repaired or replaced within  
12 30 days of discovery, and use of all supply lines associated with the RP device shall cease until repair or  
13 replacement has been completed. Copies of the inspection and maintenance records and test results for  
14 each RP device associated with the backflow prevention program shall be submitted to the department  
15 annually in the monitoring reports due by May 1.

16           **PQ. Supply Well Protection:** With the exception of monitoring wells, all wells located  
17 within the land application area of a dairy facility shall have a surface pad constructed in accordance  
18 with the recommendations of Subsection G of 19.27.4.29 NMAC and a permanent well cap or cover  
19 pursuant to Subsection I of 19.27.4.29 NMAC.

20  
21 **20.6.2.3222        ADDITIONAL OPERATIONAL REQUIREMENTS FOR DAIRY FACILITIES**  
22 **DISCHARGING TO AN EVAPORATIVE WASTEWATER DISPOSAL SYSTEM: Impoundment**  
23 **Evaporative Capacity – Wastewater and Wastewater/Stormwater Combination:** A wastewater or  
24 combination wastewater/stormwater impoundment shall be operated and maintained for the purpose of  
25 disposing of wastewater or both wastewater and stormwater by evaporation. A permittee shall manage  
26 wastewater or combination wastewater/stormwater impoundments to maintain the capacity and two feet of  
27 freeboard as required by Subsection D of 20.6.2.3217 NMAC.

28  
29 **20.6.2.3223        GROUND WATER MONITORING REQUIREMENTS FOR ALL DAIRY**  
30 **FACILITIES:**

31           **A. Monitoring Wells – Required Locations:** A permittee shall monitor ground water  
32 quality hydrologically downgradient of each source of ground water contamination, including but not  
33 limited to wastewater, stormwater, and combination wastewater/stormwater impoundments, and fields  
34 within the land application area. Monitoring wells shall be located pursuant to this section to detect an  
35 exceedance(s) or a trend towards exceedance(s) of the ground water standards at the earliest possible  
36 occurrence, so that source control or abatement may be implemented as soon as possible.

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1           (1) **Ground Water Monitoring – Wastewater Impoundments:** A minimum of one  
2 monitoring well shall be located hydrologically downgradient and within 75 feet (measured as horizontal  
3 map distance) of the top inside edge of each wastewater impoundment. ~~including previously utilized~~  
4 ~~impoundments to which wastewater discharge has ceased. For existing dairy facilities, this ground water~~  
5 ~~monitoring requirement additionally applies to wastewater impoundments that received wastewater at~~  
6 ~~authorized by the most recent discharge permit issued prior to the effective date of these dairy rules but are~~  
7 ~~not proposed for use under the first discharge permit renewal following the effective date of these dairy~~  
8 ~~rules.~~

9                   (a) For a new dairy facility, monitoring wells shall be installed before discharging at  
10 the dairy facility.

11                   (b) For an existing dairy facility, monitoring wells shall be installed within 120 days  
12 of the effective date of the discharge permit.

13                   (c) A permittee constructing a new impoundment at an existing dairy facility shall  
14 install the monitoring well(s) required to monitor ground water hydrologically downgradient of the  
15 impoundment s before discharging wastewater to the impoundment or within 120 days of the completion of  
16 the impoundment, whichever occurs first.

17           (2) **Ground Water Monitoring – Combination Wastewater/Stormwater**  
18 **Impoundments:** A minimum of one monitoring well shall be located hydrologically downgradient and  
19 within 75 feet (measured as horizontal map distance) of the top inside edge of each combination  
20 wastewater/stormwater impoundment. ~~including previously utilized impoundments to which wastewater~~  
21 ~~discharge or stormwater collection has ceased. For existing dairy facilities, this ground water monitoring~~  
22 ~~requirement additionally applies to combination wastewater/stormwater impoundments that received~~  
23 ~~wastewater or stormwater as authorized by the most recent discharge permit issued prior to the effective~~  
24 ~~date of these dairy rules but are not proposed for use under the first discharge permit renewal following the~~  
25 ~~effective date of these dairy rules.~~

26                   (a) For a new dairy facility, monitoring wells shall be installed before the earlier of the  
27 following:

- 28                           (i) placing any livestock at the dairy facility; or
- 29                           (ii) discharging wastewater to at the dairy facility.

30                   (b) For an existing dairy facility, monitoring wells shall be installed within 120 days  
31 of the effective date of the discharge permit.

32                   (c) A permittee constructing a new impoundment at an existing dairy facility shall  
33 install the monitoring well(s) required to monitor ground water hydrologically downgradient of the  
34 impoundment before discharging wastewater to the impoundment, before collecting stormwater in the  
35 impoundment or within 120 days of the completion of the impoundment, whichever occurs first.

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1           (3) **Ground Water Monitoring – Stormwater Impoundments:** A minimum of one  
2 monitoring well shall be located hydrologically downgradient and within 75 feet (measured as horizontal  
3 map distance) of the top inside edge of each stormwater impoundment ~~including previously utilized~~  
4 ~~impoundments to which stormwater collection has ceased. For existing dairy facilities, this ground water~~  
5 ~~monitoring requirement additionally applies to stormwater impoundments that received stormwater as~~  
6 ~~authorized by the most recent discharge permit issued prior to the effective date of these dairy rules but are~~  
7 ~~not proposed for use under the first discharge permit renewal following the effective date of these dairy~~  
8 ~~rules.~~

9                   (a) For a new dairy facility, monitoring wells shall be installed before placing any  
10 livestock at the dairy facility.

11                   (b) For an existing dairy facility, monitoring wells shall be installed within 120 days  
12 of the effective date of the discharge permit.

13                   (c) A permittee constructing a new impoundment at an existing dairy facility shall  
14 install the monitoring well(s) required to monitor ground water hydrologically downgradient of the  
15 impoundment before collecting stormwater in the impoundment(s) or within 120 days of the completion of  
16 the impoundment, whichever occurs first.

17           (4) **Ground Water Monitoring – Land Application Area:** Monitoring wells intended to  
18 monitor ground water hydrologically downgradient of fields within the land application area shall be  
19 installed as follows.

20                   (a) **Flood Irrigation:** Ground water monitoring shall be performed hydrologically  
21 downgradient of each flood irrigated field or grouping of contiguous flood irrigated fields. For every 40  
22 acres or less of a single flood irrigated field or a single grouping of contiguous flood irrigated fields, a  
23 minimum of one monitoring well shall be located hydrologically downgradient and within 50 feet  
24 (measured as horizontal map distance) of the downgradient boundary of the single field or single grouping  
25 of contiguous fields, ~~including previously utilized fields to which application of wastewater or stormwater~~  
26 ~~has ceased.~~ Flood irrigated fields separated by ditch irrigation systems, acequias and drains shall be  
27 considered contiguous for the purpose of this subsection. ~~For existing dairy facilities, this ground water~~  
28 ~~monitoring requirement additionally applies to single fields or single groupings of contiguous flood~~  
29 ~~irrigated fields that received wastewater or stormwater as authorized by the most recent discharge permit~~  
30 ~~issued prior to the effective date of these dairy rules but are not proposed for use under the first discharge~~  
31 ~~permit renewal following the effective date of these dairy rules.~~

32                   (i) For a new dairy facility, monitoring wells shall be installed before  
33 discharging at the dairy facility.

34                   (ii) For an existing dairy facility, monitoring wells shall be installed within 120  
35 days of the effective date of the discharge permit.

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1 (iii) A permittee activating a new flood irrigated field at an existing dairy  
2 facility shall install the monitoring well(s) required to monitor ground water hydrologically downgradient  
3 of the field before applying wastewater or stormwater to the field.

4 (b) **Sprinkler or Drip Irrigation:** Ground water monitoring shall be performed  
5 hydrologically downgradient of each sprinkler or drip irrigated field, or grouping of contiguous sprinkler or  
6 drip irrigated fields. For every ~~160.425~~ acres or less of a single sprinkler or drip irrigated field, or a single  
7 grouping of ~~160.425~~ contiguous acres of sprinkler or drip irrigated fields, a minimum of one monitoring  
8 well shall be located hydrologically downgradient and within 50 feet (measured as horizontal map distance)  
9 of the downgradient boundary of the single field or single grouping of contiguous fields, ~~including~~  
10 ~~previously utilized fields to which application of wastewater or stormwater has ceased.~~ Sprinkler or drip  
11 irrigated fields separated by ditch irrigation systems, acequias and drains shall be considered contiguous for  
12 the purpose of this subsection. ~~For existing dairy facilities, this ground water monitoring requirement~~  
13 ~~additionally applies to single fields or single groupings of contiguous sprinkler or drip irrigated fields that~~  
14 ~~received wastewater or stormwater as authorized under the most recent discharge permit issued prior to the~~  
15 ~~effective date of these dairy rules but are not proposed for use under the first discharge permit renewal~~  
16 ~~following the effective date of these dairy rules.~~

17 (i) For a new dairy facility, monitoring wells shall be installed before  
18 discharging at the dairy facility.

19 (ii) For an existing dairy facility, monitoring wells shall be installed within 120  
20 days of the effective date of the discharge permit.

21 (iii) A permittee activating a new sprinkler or drip irrigated field at an existing  
22 dairy facility shall install the monitoring well(s) required to monitor ground water hydrologically  
23 downgradient of the field before applying wastewater or stormwater to the field.

24 (c) **Crop Harvest by Grazing:** Notwithstanding the requirements of Subparagraphs  
25 (a) and (b) of this paragraph, a minimum of one monitoring well(s) shall be located hydrologically  
26 downgradient and within 50 feet (measured as horizontal map distance) of the downgradient boundary of  
27 each field where grazing is proposed in an nutrient management plan (NMP) as an alternative to, or in  
28 conjunction with, crop removal by mechanical harvest.

29 (5) **Ground Water Monitoring – Upgradient:** A minimum of one monitoring well shall  
30 be located hydrologically upgradient of all ground water contamination sources at a dairy facility in order  
31 to establish ground water quality conditions at a location not likely to be affected by contamination sources  
32 at the dairy facility.

33 (a) For a new dairy facility, monitoring wells shall be installed before discharging at  
34 the dairy facility.

35 (b) For an existing dairy facility, monitoring wells shall be installed within 120 days  
36 of the effective date of the discharge permit.

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1           (6) **Use of Existing Monitoring Wells:** A monitoring well in existence before the effective  
2 date of the dairy rules shall be approved for ground water monitoring at a dairy facility provided all of the  
3 following requirements are met.

4                   (a) The monitoring well is located at the location previously approved by the  
5 department.

6                   (b) The monitoring well:

7                           (i) if intended to monitor ground water quality near a contamination source, is  
8 located downgradient of the source based on current hydrologic conditions and is located no more than 100  
9 feet hydrologically downgradient (measured as a horizontal map distance) from the contamination source;  
10 or

11                           (ii) if intended to monitor ground water quality at a location not likely to be  
12 affected by contamination sources, is located hydrologically upgradient of sources at the dairy facility.

13                   (c) The monitoring well is constructed with a screen length consistent with the  
14 construction requirements of this section or an alternative screen length previously approved by the  
15 department, and the screened interval intersects with the most-shallow ground water, and

16                           (i) the alternative screen length is no greater than 30 feet; or

17                           (ii) the monitoring well has a water column within the screened interval of no  
18 more than 25 feet in length based upon the most recent ground water level obtained with a water level  
19 measuring device pursuant to Section 20.6.2.3223 NMAC.

20                   (d) The monitoring well construction log, the scaled dairy facility map and the ground  
21 water elevation contour map, and a copy of the department's written approval of an alternate screen length  
22 or recent ground water level data, as appropriate, is submitted with the application for a renewed or  
23 renewed and modified discharge permit verifying that the requirements of Subparagraphs (a), (b), and (c) of  
24 this paragraph are met.

25           (7) **Exceptions to Monitoring Well Requirements:** When appropriate, based on the  
26 documented ground water flow direction, one monitoring well may be authorized by a discharge permit to  
27 monitor ground water hydrologically downgradient of more than one contamination source under any of  
28 the following circumstances.

29                   (a) Contiguous impoundments are oriented along a line that is parallel or  
30 approximately parallel to the direction of ground water flow beneath the impoundments.

31                   (b) Adjacent impoundments are oriented along a line that is parallel or approximately  
32 parallel to the direction of ground water flow beneath the impoundments and separated by a distance of 50  
33 feet or less as measured from the top inside edge of one impoundment to the nearest top inside edge of the  
34 adjacent impoundment.

35                   (c) Adjacent or adjacent groupings of contiguous sprinkler or drip irrigated fields are  
36 oriented along a line that is parallel or approximately parallel to the direction of ground water flow beneath

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1 the fields and the average depth-to-most-shallow ground water measured in on-site monitoring wells  
2 pursuant to Subsection F of this section or measured in a site-specific test boring pursuant to Subsection Z  
3 of 20.6.2.3220 NMAC is 300 feet or greater. A monitoring well(s) installed hydrologically downgradient  
4 of a sprinkler or drip irrigated field or a grouping of sprinkler or drip irrigated fields pursuant to Paragraph  
5 (4) of this subsection may be authorized by a discharge permit to monitor ground water hydrologically  
6 downgradient of not more than two adjacent sprinkler or drip irrigated fields or adjacent groupings of  
7 sprinkler or drip irrigated fields.

8 (8) **Requirement for Third Monitoring Well:** If fewer than three monitoring wells are  
9 needed to satisfy the ground water monitoring requirements of Paragraphs (1) through (7) of this  
10 subsection, a third monitoring well shall be installed within 75 feet of the contamination source and in a  
11 location alternate to the downgradient monitoring well required by this subsection. The third monitoring  
12 well shall be installed in an alternative location that allows for the determination of ground water flow  
13 direction pursuant to this section.

14 **B. Monitoring Wells – Location Proposals:** An applicant or permittee shall identify  
15 monitoring well locations in the application for a new, renewed or modified discharge permit pursuant to  
16 Subsection A of this section, and shall include the following information:

17 (1) the location of each monitoring well relative to the contamination source it is intended to  
18 monitor shall be indicated on the scaled map required by Subsection W of 20.6.2.3220 NMAC;

19 (2) a written description of the specific location for each monitoring well including the  
20 horizontal map distance (in feet) and compass bearing of each monitoring well from the top inside edge of  
21 the impoundment berm or edge of the field it is intended to monitor; and

22 (3) the ground water flow direction beneath the dairy facility used to determine the  
23 monitoring well location(s), including supporting documentation used to determine ground water flow  
24 direction.

25 **C. Monitoring Wells – Identification Tags:** A permittee shall identify all monitoring wells  
26 required by the dairy rules with a well identification tag. For above-grade wells, the tag shall be affixed to  
27 the exterior of the steel well shroud using rivets, bolts or a steel band. For wells finished below-grade, the  
28 tag shall be placed inside the well vault next to the well riser. The tag shall be:

29 (1) made of aluminum;

30 (2) at least two inches by four inches in size;

31 (3) for monitoring wells installed after the effective date of the dairy rules, the tag shall be  
32 engraved with:

33 (i) the discharge permit number;

34 (ii) the well identification nomenclature specified in a discharge permit;

35 (iii) the name and New Mexico well driller license number of the well driller  
36 who drilled the well; and

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- 1 (iv) the month and year of well installation; and  
2 (4) for monitoring wells installed before the effective date of the dairy rules and satisfying  
3 the requirements of Paragraph (6) of Subsection A of this section, the tag shall be engraved with:  
4 (i) the discharge permit number;  
5 (ii) the well identification nomenclature specified in a discharge permit; and  
6 (iii) if available, the name and New Mexico well driller license number of the  
7 well driller who drilled the well, and the month and year of well installation.

8 **D. Monitoring Wells – Construction and Completion:** A permittee shall construct  
9 monitoring wells pursuant to Part 19.27.4 NMAC and the following requirements.

- 10 (1) All well drilling activities shall be performed by an individual with a current and valid  
11 well driller license issued by the State of New Mexico pursuant to Part 19.27.4 NMAC.  
12 (2) The well driller shall employ drilling methods that allow for accurate determinations of  
13 water table locations. All drill bits, drill rods, and down-hole tools shall be thoroughly cleaned  
14 immediately before drilling. The bore hole diameter shall allow a minimum annular space of two inches  
15 between the outer circumference of the well materials (casing or screen) and the bore hole wall to allow for  
16 the emplacement of sand and sealant.  
17 (3) After completion, the well shall be allowed to stabilize for a minimum of 12 hours before  
18 development is initiated.  
19 (4) The well shall be developed so that formation water flows freely through the screen and  
20 is not turbid, and all sediment and drilling disturbances are removed from the well.  
21 (5) Schedule 40 (or heavier) polyvinyl chloride (PVC) pipe, stainless steel pipe, or carbon  
22 steel pipe shall be used as casing. The casing shall have an inside diameter not less than two inches. The  
23 casing material selected for use shall be compatible with the anticipated chemistry of the ground water and  
24 appropriate for the contaminants of interest at the dairy facility. The casing material and thickness selected  
25 for use shall have sufficient collapse strength to withstand the pressure exerted by grouts used as annular  
26 seals and thermal properties sufficient to withstand the heat generated by the hydration of cement-based  
27 grouts.  
28 (6) Casing sections shall be joined using welded, threaded, or mechanically locking joints;  
29 the method selected shall provide sufficient joint strength for the specific well installation.  
30 (7) The casing shall extend from the top of the screen to at least one foot above ground  
31 surface. The top of the casing shall be fitted with a removable cap, and the exposed casing shall be  
32 protected by a locking steel well shroud. The shroud shall be large enough in diameter to allow easy access  
33 for removal of the cap. Alternatively, monitoring wells may be completed below grade. In this case, the  
34 casing shall extend from the top of the screen to six to twelve inches below the ground surface; the  
35 monitoring wells shall be sealed with locking, expandable well plugs; a flush-mount, watertight well vault  
36 that is rated to withstand traffic loads shall be emplaced around the wellhead; and the cover shall be

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1 secured with at least one bolt. The vault cover shall indicate that the wellhead of a monitoring well is  
2 contained within the vault.

3 (8) A 20-foot section (maximum) of continuous well screen shall be installed across the  
4 water table. Screen shall consist of continuous-slot, machine slotted, or other manufactured Schedule 40  
5 (or heavier) PVC or stainless steel. Screens created by cutting slots into solid casing with saws or other  
6 tools shall not be used. The screen material selected for use shall be compatible with the anticipated  
7 chemistry of the ground water and appropriate for the contaminants of interest at the dairy facility. The  
8 screen slot size shall be selected to retain 90 percent of the filter pack.

9 (a) Requests for a 30-foot section of continuous well screen may be authorized by a  
10 discharge permit when the most recent two years of ground water level data demonstrates a declining water  
11 level trend of at least two feet per year. Data supporting ground water levels shall be specific to monitoring  
12 wells located at the dairy facility and obtained with a water level measuring device as required by  
13 Subsection F of this section.

14 (b) Requests for a 30-foot section of continuous well screen shall be submitted to the  
15 department in the application for a new, renewed or modified discharge permit.

16 (9) Screen sections shall be joined using welded, threaded, or mechanically locking joints.  
17 The method selected shall provide sufficient joint strength for the specific well installation and shall not  
18 introduce constituents that may reasonably be considered contaminants of interest at the dairy facility. A  
19 cap shall be attached to the bottom of the well screen. Sumps (i.e., casing attached to the bottom of a well  
20 screen) shall not be installed.

21 (10) The bottom of the screen shall be installed no more than 15 feet below the water table,  
22 or no more than 25 feet below the water table when additional screen length is authorized by a discharge  
23 permit. The top of the well screen shall be positioned not less than five feet above the water table. The  
24 well screen slots shall be appropriately sized for the formation materials.

25 (11) Casing and well screen shall be centered in the borehole by installing centralizers near  
26 the top and bottom of the well screen.

27 (12) A filter pack shall be installed around the screen by filling the annular space from the  
28 bottom of the screen to two feet above the top of the screen with clean silica sand. The filter pack shall be  
29 properly sized to exclude the entrance of fine sand, silt, and clay from the formation into the monitoring  
30 well. For wells deeper than 30 feet, the sand shall be emplaced by a tremmie pipe. The well shall be  
31 surged or bailed to settle the filter pack and additional sand added, if necessary, before the bentonite seal is  
32 emplaced.

33 (13) A bentonite seal shall be constructed immediately above the filter pack by emplacing  
34 bentonite chips or pellets (three-eighths inch in size or smaller) in a manner that prevents bridging of the  
35 chips/pellets in the annular space. The bentonite seal shall be three feet in thickness and hydrated with

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1 clean water. Adequate time shall be allowed for expansion of the bentonite seal before installation of the  
2 annular space seal.

3 (14) The annular space above the bentonite seal shall be sealed with ~~a bentonite-cement~~  
4 ~~grout (five lbs. of powdered bentonite, 94 lbs. of Portland cement, and six and a half to eight and a half~~  
5 ~~gallons of clean water), neat cement grout (94 lbs. of Portland cement and five to six gallons of clean~~  
6 ~~water), or bentonite-based sealing material grout (20 percent solids, created by mixing 50 lbs. of bentonite~~  
7 ~~grout with 24 gallons of clean water) acceptable to the state engineer in accordance with Part 19.27.4~~  
8 ~~NMAC. Emplacement of the annular space seal shall be performed by using a tremmie pipe (flow by~~  
9 ~~gravity or pumping through the pipe). A tremmie pipe shall be used to emplace the annular space seal~~  
10 ~~(flow by gravity or pumping through the pipe) if the total depth of the well is greater than 20 feet from the~~  
11 ~~land surface. Annular space seals shall extend from the top of the bentonite seal to the ground surface (for~~  
12 ~~wells completed above grade) or to a level three to six inches below the top of casing (for wells completed~~  
13 ~~below grade).~~

14 (15) A concrete pad (two-foot minimum radius, four-inch minimum thickness) shall be  
15 poured around the shroud or well vault and wellhead. The concrete and surrounding soil shall be sloped to  
16 direct rainfall and runoff away from the wellhead.

17 **E. Monitoring Wells – OSE Requirements:** Should a well permit for a monitoring well  
18 be required by the Office of the State Engineer, the permittee shall obtain the permit prior to well  
19 drilling.

20 **F. Ground Water Sample Collection Procedure:** A permittee shall perform all ground  
21 water sample collection, preservation, transport and analysis according to the following procedure.

22 (1) Depth-to-most-shallow ground water shall be measured from the top of well casing at  
23 point of survey to the nearest 0.01 feet using an electronic water level indicator consisting of dual  
24 conductor wire encased in a cable or tape graduated to 0.01 feet, a probe attached to the end of the  
25 conductor wire, and a visual or audible indicator.

26 (2) Monitoring wells shall be purged before sample collection by one of the following  
27 methods:

28 (a) three well volumes of water shall be purged from the well before sample  
29 collection; or

30 (b) the monitoring well shall be purged until measurements of indicator parameters  
31 (pH, specific conductance, and temperature) have stabilized. Indicator parameters shall be measured  
32 periodically during purging. A parameter stabilization log shall be kept during each sampling event for  
33 each monitoring well and include: date; water quality indicator parameter measurements; time for all  
34 measurements; and the purge volume extracted. Indicator parameters are considered stable when three  
35 consecutive readings made no more than five minutes apart fall within the following ranges: temperature  $\pm$   
36 plus or minus 10 percent; pH  $\pm$  plus or minus 0.5 units; specific conductance  $\pm$  plus or minus 10 percent.

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1           (3) Following purging and immediately before sample collection the following field  
2 parameters shall be measured and recorded: pH, specific conductance, and temperature.

3           (4) In-line flow-through cells shall be disconnected or by-passed during sample collection, if  
4 used during purging.

5           (5) Samples from the well shall be obtained, prepared, preserved and transported to an  
6 analytical laboratory for analysis pursuant to the methods authorized by Subsection B of 20.6.2.3224  
7 NMAC.

8           **G. Ground Water Sampling and Reporting - Routine:** A permittee shall collect ground  
9 water samples quarterly from all monitoring wells required by Subsection A of this section and Subsection  
10 C of 20.6.2.3227 NMAC. Samples shall be analyzed for nitrate as nitrogen, total Kjeldahl nitrogen,  
11 chloride, sulfate and total dissolved solids pursuant to Subsection B of 20.6.2.3224 NMAC. A permittee  
12 shall submit to the department in the quarterly monitoring reports the depth-to-most-shallow ground water,  
13 the field parameter measurements, the parameter stabilization log (if applicable), the analytical results  
14 (including the laboratory quality assurance and quality control summary report) and a map showing the  
15 location and number of each well in relation to the contamination source it is intended to monitor.

16           **H. Ground Water Sampling – New Monitoring Wells:** A permittee shall collect ground  
17 water samples from all newly installed monitoring wells. Samples shall be analyzed for nitrate as nitrogen,  
18 total Kjeldahl nitrogen, chloride, sulfate and total dissolved solids pursuant to Subsection B of 20.6.2.3224  
19 NMAC.

20           (1) Samples shall be collected from the newly installed monitoring wells at new dairy  
21 facilities before discharging at the dairy facility.

22           (2) Samples shall be collected from the newly installed monitoring wells at existing dairy  
23 facilities within 150 days of the effective date of the discharge permit.

24           (3) For dairy facilities installing a new monitoring well during the term of a discharge  
25 permit, during construction of a new impoundment, or as a result of required corrective actions, samples  
26 shall be collected from the newly installed monitoring wells within 30 days of well completion.

27           **I. Monitoring Well Survey and Ground Water Flow Determination:** A permittee shall  
28 survey monitoring wells to a U.S. Geological Survey (USGS) benchmark. Survey data shall include  
29 northing, easting and elevation to the nearest hundredth of a foot or shall be in accordance with the  
30 "Minimum Standards for Surveying in New Mexico", Part 12.8.2 NMAC. A survey elevation shall be  
31 established at the top-of-casing, with a permanent marking indicating the point of survey. The survey shall  
32 be completed and bear the seal and signature of a licensed New Mexico professional surveyor. Depth-to-  
33 most-shallow ground water shall be measured from the point of survey to the nearest hundredth of a foot in  
34 all surveyed wells pursuant to Subsection F of this section, and the data shall be used to develop a map  
35 showing the location of all monitoring wells and the direction and gradient of ground water flow at the  
36 dairy facility.

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1           (1) For a new dairy facility, monitoring wells shall be surveyed before discharging at the  
2 dairy facility.

3           (2) For an existing dairy facility, monitoring wells not previously surveyed in a manner  
4 consistent with the requirements of this subsection and Subsection B of 20.6.2.3217 NMAC shall be  
5 surveyed within 150 days of the effective date of the discharge permit.

6           **J. Monitoring Well Completion Report:** A permittee shall submit to the department a  
7 monitoring well completion report pertaining to all monitoring wells. For a new dairy facility, the report  
8 shall be submitted before discharging at the dairy facility. For an existing dairy facility, the report shall be  
9 submitted within 180 days after the effective date of the discharge permit or within 60 days of completion  
10 as specified in a discharge permit. The report shall contain the following information:

11           (1) construction and lithologic logs for the new monitoring wells including well record  
12 information specified by Part 19.27.4 NMAC;

13           (2) depth-to-most-shallow ground water measured in each new and existing monitoring well;

14           (3) survey data and a survey map showing the locations of each new and existing monitoring  
15 well and a ground water elevation contour map developed pursuant to Subsection L of this section; and

16           (4) analytical results of ground water samples collected from the new monitoring wells,  
17 including laboratory quality assurance and quality control summary reports, and field parameter  
18 measurements.

19           **K. Monitoring Well Survey Report – Existing Monitoring Wells:** For a dairy facility  
20 required to survey existing monitoring wells pursuant to this section a permittee shall submit the  
21 monitoring well survey report to the department within 180 days of the effective date of the discharge  
22 permit. The report shall contain the depth-to-most-shallow ground water measured in each monitoring  
23 well, a surveyed map showing the locations of the monitoring wells, and the direction and gradient of  
24 ground water flow at the dairy facility.

25           **L. Ground Water Elevation Contour Maps:** A permittee shall develop ground water  
26 elevation contour maps on a quarterly basis using data associated with all monitoring wells used for ground  
27 water monitoring at the dairy facility. Top of casing elevation data, obtained from monitoring well surveys  
28 completed pursuant to this section and quarterly depth-to-most-shallow ground water measurements in  
29 monitoring wells, shall be used to calculate ground water elevations at monitoring well locations. Ground  
30 water elevations between monitoring well locations shall be estimated using common interpolation  
31 methods. Ground water elevations shall be expressed in feet. A contour interval appropriate to the data  
32 shall be used, but in no case shall the interval be greater than two feet. Ground water elevation contour  
33 maps shall depict the ground water flow direction, using arrows, based on the orientation of the ground  
34 water elevation contours, and the location and identification of each monitoring well, impoundment, and  
35 field within the land application area. A permittee shall submit ground water elevation contour maps to the  
36 department in the quarterly monitoring reports.

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1           **M. Monitoring Well Inspection:** The department may perform downhole inspections of all  
2 monitoring wells. At least 60 days before the inspection, the department shall provide written notice to the  
3 permittee by certified mail stating the inspection date and identifying the monitoring wells to be inspected;  
4 the 60 day notification period shall start upon the date of postal notice. At least 48 hours before the  
5 department's inspection, the permittee shall remove all existing dedicated pumps to allow adequate settling  
6 time of sediment agitated from pump removal. If a permittee decides to install a dedicated pump in a  
7 monitoring well, the permittee shall notify the department so that the department may have the opportunity  
8 to perform a downhole well inspection before pump installation. Alternatively, a permittee may employ a  
9 third party to perform downhole monitoring well inspections, provided the department is given at least 60  
10 days written notice by certified mail so that a department representative may be on-site to observe the  
11 inspection.

12           (1) The third party shall make a video recording of the monitoring well inspection using a  
13 downhole camera and perform the inspection in accordance with the following requirements.

14           (a) Depth-to-most-shallow ground water shall be obtained from the well using an  
15 electronic water level indicator pursuant to Subsection F of 20.6.2.3223 NMAC, prior to inspection with a  
16 downhole camera. Care shall be taken when obtaining this measurement so as to not disturb sediments in  
17 the well.

18           (b) If ground water sample collection is planned during the inspection event, the  
19 downhole camera shall be used to inspect a monitoring well prior to sampling the well.

20           (c) Prior to well inspection with a downhole camera, at the top of the well casing, the  
21 totalizing reading on the downhole camera shall be zeroed, or a value other than zero shall be recorded as  
22 an initial reading.

23           (d) All measurements and totalizing readings (with the exception of depth-to-most-  
24 shallow ground water obtained pursuant to Subsection F of 20.6.2.3223 NMAC) shall be obtained to the  
25 nearest 0.1 feet. Downhole cameras that utilize a measurement system other than 0.1-foot increments are  
26 authorized for use; however the permittee shall report the direct measurement/reading obtained and the  
27 calculated conversion in 0.1 feet on the written log.

28           (e) All measurements and totalizing readings shall be obtained at the top of the well  
29 casing.

30           (f) The downhole camera shall be lowered into the monitoring well at a consistent  
31 speed that allows for clear video capture and does not disturb sediments in the well.

32           (g) Lowering of the downhole camera shall be paused long enough to clearly identify  
33 totalizing readings at the following points: depth-to-most-shallow ground water; depth of the top of the  
34 screened interval; depth of the bottom of screened interval; and the bottom of the well.

35           (2) The permittee shall submit written and video monitoring well camera logs for every  
36 monitoring well viewed with a downhole camera, along with a copy of an up-to-date facility map showing

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1 the location and identification of each monitoring well. The permittee shall submit the logs to the  
2 department within 60 days following the date of the well inspection.

3 (a) The written monitoring well camera log shall include the following general  
4 information: name of the dairy facility; discharge permit number; permittee's name; monitoring well  
5 identification; date and time of the monitoring well camera inspection; location of the monitoring well  
6 relative to a source or facility landmark; camera manufacturer and model; names of camera operator and  
7 any technical assistants; diameter of the casing (in inches); and a description of the physical condition of  
8 the well's concrete pad, shroud, casing and screened interval. The written log shall include measurements  
9 of distance from top of the well casing to the surface of the concrete pad; height from ground surface to the  
10 top of the concrete pad; and depth-to-most-shallow ground water measured using an electronic water level  
11 indicator pursuant to Subsection F of 20.6.2.3223 NMAC. The written log shall also include totalizing  
12 readings obtained from the downhole camera including the initial reading at the top of the well casing;  
13 depth-to-most-shallow ground water using the borehole camera; depth of the top of the screened interval;  
14 depth of the bottom of screened interval; and the bottom of the well (total depth). The length of the  
15 screened interval shall be calculated by subtracting the depth of the top of the screened interval from the  
16 depth of the bottom of screened interval and recorded on the log.

17 (b) The video monitoring well camera log shall display the name of the dairy facility;  
18 discharge permit number; permittee's name; monitoring well identification; date and time of the monitoring  
19 well camera inspection; and the totalizing readings required by Subparagraph (g) of Paragraph (1) of this  
20 subsection. The permittee shall submit the video to the department in MPEG (Motion Picture Experts  
21 Group) video format on a compact disc (CD) or digital versatile disc (DVD).

22  
23 **20.6.2.3224 MONITORING REQUIREMENTS FOR ALL DAIRY FACILITIES:**

24 **A. Monitoring Reports – Schedule of Submittal:** A permittee shall submit monitoring  
25 reports to the department on a quarterly schedule and shall contain monitoring data and information  
26 collected pursuant to the dairy rules. Quarterly monitoring reports shall be submitted according to the  
27 following schedule:

- 28 (1) January 1 through March 31 (first quarter) – report due by May 1;
- 29 (2) April 1 through June 30 (second quarter) – report due by August 1;
- 30 (3) July 1 through September 30 (third quarter) – report due by November 1; and
- 31 (4) October 1 through December 31 (fourth quarter) – report due by February 1.

32 **B. Sampling and Analysis Methods:** A permittee shall sample and analyze water pursuant  
33 to Subsection B of 20.6.2.3107 NMAC. Analysis of water for total sulfur shall be accomplished pursuant to  
34 environmental protection agency method 200.7 or equivalent. Sampling and analysis of soil shall be  
35 conducted in accordance with "Methods of Soil Analysis: Part 1. Physical and Mineralogical Methods" and  
36 "Methods of Soil Analysis: Part 2. Chemical and Microbiological Properties," published by the American

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1 Society of Agronomy. Sampling and analysis of soil shall be conducted in accordance with "methods of  
2 soil analysis: part 1. physical and mineralogical methods," 1986 edition; "methods of soil analysis: part 2.  
3 microbiological and biochemical properties," 1994 edition; and "methods of soil analysis: part 3. chemical  
4 methods," 1996 edition, published by the American society of agronomy.

5 **C. Wastewater Volume Measurement and Reporting:** A permittee shall measure the  
6 daily volume of all wastewater discharged to the wastewater impoundment(s) using flow meters. Meter  
7 readings shall be recorded at intervals not to exceed seven days. The average daily discharge volume for  
8 each recording interval shall be calculated by dividing the difference between the meter readings by the  
9 number of days between meter readings. The permittee shall provide include daily the meter readings  
10 including the date, time and units of each measurement, and calculations for the average daily volumes of  
11 wastewater discharged to the wastewater impoundments, reported in gallons per day, in the quarterly  
12 monitoring reports submitted to the department.

13 **D. Stormwater Sampling and Reporting:** A permittee shall collect stormwater samples on  
14 a quarterly basis from each stormwater impoundment. The samples shall be collected as soon as possible  
15 after a storm event and before transferring the stormwater to a wastewater impoundment(s) or a land  
16 application area. The samples shall be analyzed for nitrate as nitrogen, total Kjeldahl nitrogen, chloride,  
17 sulfate total sulfur and total dissolved solids pursuant to this section. The permittee shall include analytical  
18 results, or a statement that stormwater runoff did not occur, in the quarterly monitoring reports submitted to  
19 the department.

20 **E. Flow Meter Field Calibration:** All flow meters shall be capable of having their  
21 accuracy ascertained under actual working (field) conditions. A field calibration method shall be  
22 developed for each flow meter and that method shall be utilized to check the accuracy of each respective  
23 meter. Field calibrations shall be performed upon installation and, at a minimum, annually thereafter.  
24 Flow meters shall be calibrated to within +/- plus or minus 10 percent of actual flow, as measured under  
25 field conditions. Field calibrations shall be performed by an individual knowledgeable in flow  
26 measurement and in the installation/operation of the particular device in use. The permittee shall submit  
27 the results of annual field calibrations to the department annually in the monitoring reports due by May 1.  
28 The flow meter calibration report shall include the following:

- 29 (1) the location and meter identification nomenclature identified by the department through  
30 a discharge permit;
- 31 (2) the method of flow meter field calibration employed;
- 32 (3) the measured accuracy of each flow meter prior to adjustment indicating the positive or  
33 negative offset as a percentage of actual flow as determined by an in-field calibration check;
- 34 (4) the measured accuracy of each flow meter following adjustment, if necessary, indicating  
35 the positive or negative offset as a percentage of actual flow of the meter; and
- 36 (5) any flow meter repairs made during the previous year or during field calibration.

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1           **F. Primary Liner Leakage Measurement, Analysis and Reporting:** A permittee shall  
2 monitor impoundments utilizing primary and secondary liners and equipped with leak detection systems in  
3 the following manner.

4           (1) The monthly volume of leachate pumped from the leak detection system(s) back into the  
5 respective impoundment(s) shall be measured using a totalizing flow meter(s). The permittee shall submit  
6 monthly meter readings including units of measurement, and monthly volumes to the department in the  
7 quarterly monitoring reports.

8           (2) Monthly meter volumes of leachate shall be used to determine the average daily leakage  
9 rate for the respective impoundment. The average daily leakage rate shall be compared to the pump rate to  
10 assure that the automated pump system is capable of removing leachate at a rate sufficient to ensure  
11 leachate accumulation in the drainage layer is minimized. The permittee shall submit a report documenting  
12 that the pump system is operating effectively to the department in the quarterly monitoring reports.

13           (3) Upon initial discovery of leachate in the leak detection system(s), a leachate sample shall  
14 be collected from the system and analyzed for nitrate as nitrogen, total Kjeldahl nitrogen, chloride, **sulfate**  
15 **total sulfur** and total dissolved solids pursuant to this section. The permittee shall submit the analytical  
16 results to the department in the next quarterly monitoring report. Should leachate continue to accumulate in  
17 the leak detection system such that it is routinely pumped, the permittee shall collect a leachate sample on a  
18 quarterly basis, analyze the sample as described above and submit the results to the department in the  
19 quarterly monitoring reports.

20  
21 **20.6.2.3225 ADDITIONAL MONITORING REQUIREMENTS FOR DAIRY FACILITIES**  
22 **WITH A LAND APPLICATION AREA:**

23           **A. Volume of Wastewater and Wastewater/Stormwater Land Applied – Measurement**  
24 **and Reporting:** A permittee shall measure all wastewater discharges from a wastewater or combination  
25 wastewater/stormwater impoundment to each field within the land application area using flow meters. A  
26 permittee shall maintain a log recording the date and location of each discharge, flow meter readings  
27 immediately prior to and after each discharge, and the calculated total volume of each discharge reported in  
28 gallons and acre-feet. A permittee shall submit a copy of the log entries including units of measurement to  
29 the department in the quarterly monitoring reports.

30           **B. Volume of Stormwater Land Applied – Measurement and Reporting:** A permittee  
31 shall measure all stormwater applications from a stormwater impoundment to each field within the land  
32 application area using flow meters. A permittee shall maintain a log recording the date and location of each  
33 application, flow meter readings immediately prior to and after each application, and the calculated total  
34 volume of each application reported in gallons and acre-feet. A permittee shall submit a copy of the log  
35 entries including units of measurement to the department in the quarterly monitoring reports.

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1           **C. Wastewater to be Land Applied – Sampling and Reporting:** A permittee shall collect  
2 and analyze wastewater samples on a quarterly basis for nitrate as nitrogen, total Kjeldahl nitrogen,  
3 chloride, ~~sulfate~~ **total sulfur** and total dissolved solids pursuant to Subsection B of 20.6.2.3224 NMAC.  
4 Samples shall be collected during active milking from a location between the manure solids separator(s)  
5 and wastewater impoundment(s) for each separator associated with an individual parlor. Wastewater  
6 samples shall be collected from the sampling location(s) proposed in the application for a new, renewed  
7 and modified discharge permit, and specified in the discharge permit. A permittee shall submit the  
8 analytical results to the department in the quarterly monitoring reports.

9           **D. Manure Solids – Nitrogen Content:** The nitrogen content of the manure solids applied  
10 to each field within the land application area shall be estimated at 25 pounds of nitrogen per ton. Should a  
11 permittee choose to use actual nitrogen content values of on-site manure solids, the permittee shall collect a  
12 composite sample on an annual basis. The composite sample shall consist of a minimum of 30 sub-samples  
13 collected on the same day and thoroughly mixed. Manure samples shall be analyzed for total Kjeldahl  
14 nitrogen and moisture content. The permittee shall submit the analytical results to the department in the  
15 quarterly monitoring reports.

16           **E. Irrigation Water – Sampling, Volume Applied, and Reporting:** A permittee shall  
17 monitor irrigation wells used to supply fresh water to the fields within the land application area to account  
18 for additional potential nitrogen supplied to the land application area in the following manner.

19           (1) Each irrigation well shall be identified in association with the field(s) to which it supplies  
20 fresh water.

21           (2) An annual sample of irrigation water supplied from each well shall be collected and  
22 analyzed for nitrate as nitrogen and total Kjeldahl nitrogen, pursuant to Subsection B of 20.6.2.3224  
23 NMAC.

24           (3) The annual volume of irrigation water applied to each field within the land application  
25 area shall be estimated for each well.

26           (4) The permittee shall submit the analytical results and the estimated annual volume of  
27 irrigation water applied from each well to each field within the land application area to the department in  
28 the monitoring reports due by May 1.

29           **F. Fertilizer Application Reporting:** A permittee shall maintain a log of all additional  
30 fertilizer(s) applied to each field of the land application area. The log shall contain the date of fertilizer  
31 application, the type and form of fertilizer, fertilizer analysis, the amount of fertilizer applied in pounds per  
32 acre to each field, and the amount of nutrients applied in pounds per acre to each field. The permittee shall  
33 submit a copy of the log entries to the department in the quarterly monitoring reports.

34           **G. Land Application Data Sheets:** A permittee shall complete land application data sheets  
35 for each field within the land application area to document the crop grown and amount of total nitrogen  
36 applied from wastewater, stormwater, manure solids, composted material, irrigation water and other

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1 additional fertilizer(s), and the residual soil nitrogen and nitrogen credits from leguminous crops. The  
2 permittee shall submit a land application data sheet or a statement that land application did not occur to the  
3 department in the quarterly monitoring reports. The land application data sheet shall include the following  
4 elements.

5 (1) The information required by Paragraphs (2) through (8) of this subsection from the  
6 previous six quarters.

7 (2) The total monthly volume, reported in acre-feet, of wastewater and stormwater applied to  
8 each field of the land application area. Total monthly volumes shall be obtained from flow meter readings  
9 of each application pursuant to Subsections A and B of this section.

10 (3) The total nitrogen concentration of wastewater and stormwater obtained from the  
11 corresponding quarterly analyses collected pursuant to Subsection C of this section and Subsection D of  
12 20.6.2.3224 NMAC.

13 (4) The total monthly volume, reported in tons per acre, of manure solids applied to each  
14 field within the land application area.

15 (5) The total nitrogen content of the manure solids estimated at 25 pounds of nitrogen per  
16 ton or determined from analysis of manure solids samples collected pursuant to Subsection D of this  
17 section.

18 (6) The total nitrogen concentration within the irrigation water and the amount of irrigation  
19 water applied pursuant to Subsection E of this section.

20 (7) The amount of nitrogen reported in pounds per acre from additional fertilizer(s) applied  
21 pursuant to Subsection F of this section.

22 (8) The amount of residual soil nitrogen and nitrogen from leguminous crops credited to  
23 each field within the land application area pursuant to Subsections K and L of this section.

24 **H. Crop Yield Documentation:** A permittee shall submit crop yield documentation and  
25 plant and harvest dates of each crop grown to the department in the quarterly monitoring reports. Crop  
26 yield documentation shall consist of copies of scale-weight tickets or harvest summaries based on scale-  
27 weights.

28 **I. Nitrogen Concentration of Harvested Crop:** A permittee shall determine the total  
29 nitrogen concentration of each harvested crop. A composite sample consisting of 15 sub-samples of plant  
30 material shall be taken from each field during the final harvest of each crop grown per year. Samples shall  
31 be analyzed for percent total nitrogen and percent dry matter. A permittee shall submit the analytical  
32 reports to the department in the quarterly monitoring reports.

33 **J. Nitrogen Removal Summary of Harvested Crop:** A permittee shall develop a nitrogen  
34 removal summary to determine total nitrogen removed by each crop grown on each field within the land  
35 application area. Nitrogen removal shall be determined utilizing crop yield and total nitrogen concentration  
36 information collected pursuant to Subsections H and I of this section. A permittee shall submit the

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1 summary to the department in the quarterly monitoring reports.

2       **K. Soil Sampling – Initial Event in a Discharge Permit Term:** A permittee shall collect  
3 composite soil samples from each field within the land application area for the first soil sampling event  
4 during the first year following the effective date of the discharge permit. Composite soil samples shall be  
5 collected in the five-month period between September 1 and January 31 for all fields regardless of whether  
6 the field is cropped, remains fallow, or has received wastewater or stormwater. One surface composite soil  
7 sample (first-foot) and two sub-surface composite soil samples (second-foot and third-foot) shall be  
8 collected from each field. Composite soil samples shall be collected and analyzed according to the  
9 following procedure.

10           (1) Each surface and sub-surface soil sample shall consist of a single composite of 15 soil  
11 cores collected randomly throughout each field. Should a field consist of different soil textures (i.e., sandy  
12 and silty clay), a composite soil sample shall be collected from each soil texture within each field.

13           (2) Surface soil samples (first-foot) shall be collected from a depth of 0 to 12 inches.

14           (3) Each second-foot sub-surface soil sample shall be collected from a depth of 12 to 24  
15 inches.

16           (4) Each third-foot sub-surface soil sample shall be collected from a depth of 24 to 36  
17 inches.

18           (5) Each surface and sub-surface composite sample shall be analyzed for pH, electrical  
19 conductivity, total Kjeldahl nitrogen, nitrate as nitrogen, chloride, organic matter, potassium, phosphorus,  
20 sodium, calcium, magnesium, sulfate, soil texture, and sodium adsorption ratio.

21           (6) pH, electrical conductivity, sodium, calcium, magnesium, and sulfate shall be analyzed  
22 using a saturated paste extract in accordance with the analytical methodology required by Subsection B of  
23 20.6.2.3224 NMAC. Phosphorus shall be analyzed using the Olsen sodium bicarbonate method in  
24 accordance with the analytical methodology required by Subsection B of 20.6.2.3224 NMAC. Nitrate as  
25 nitrogen shall be analyzed by a 2 molar KCl extract in accordance with the analytical methodology required  
26 by Subsection B of 20.6.2.3224 NMAC. Total Kjeldahl nitrogen, chloride, organic matter, potassium, soil  
27 texture, and sodium adsorption ratio shall be analyzed in accordance with the analytical methodology  
28 required by Subsection B of 20.6.2.3224 NMAC.

29           (7) The permittee shall submit the analytical results and a map showing the fields and the  
30 sampling locations within each field to the department in the monitoring report due by May 1 following the  
31 effective date of the discharge permit.

32       **L. Soil Sampling – Routine:** Beginning in the year following the initial soil sampling  
33 required by this section, the permittee shall collect annual soil samples from each field within the land  
34 application area that has received or is actively receiving wastewater or stormwater. Composite soil  
35 samples shall be collected in the five-month period between September 1 and January 31. For those fields  
36 that have never before received wastewater, the permittee shall collect soil samples immediately before

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1 initial wastewater application and annually thereafter. Once a field has received wastewater it shall be  
2 sampled annually regardless of whether the field is cropped, remains fallow, or has recently received  
3 wastewater or stormwater. One surface composite soil sample (first-foot) and two sub-surface composite  
4 soil samples (second-foot and third-foot) shall be collected from each field. Composite soil samples shall  
5 be collected and analyzed according to the following procedure.

6 (1) Each surface and sub-surface soil sample shall consist of a single composite of 15 soil  
7 cores collected randomly throughout each field. Should a field consist of different soil textures (i.e., sandy  
8 and silty clay), a composite soil sample shall be collected from each soil texture within each field.

9 (2) Surface soil samples (first-foot) shall be collected from a depth of 0 to 12 inches.

10 (3) Each second-foot sub-surface soil sample shall be collected from a depth of 12 to 24  
11 inches.

12 (4) Each third-foot sub-surface soil sample shall be collected from a depth of 24 to 36  
13 inches.

14 (5) Surface soil samples shall be analyzed for pH, electrical conductivity, nitrate as nitrogen,  
15 chloride, organic matter, potassium, phosphorus, sodium, calcium, magnesium, and sodium adsorption  
16 ratio.

17 (6) Sub-surface soil samples shall be analyzed for electrical conductivity, nitrate as nitrogen,  
18 and chloride.

19 (7) pH, electrical conductivity, sodium, calcium, and magnesium shall be analyzed using a  
20 saturated paste extract in accordance with the analytical methodology required by Subsection B of  
21 20.6.2.3224 NMAC. Phosphorus shall be analyzed using the Olsen sodium bicarbonate method in  
22 accordance with the analytical methodology required by Subsection B of 20.6.2.3224 NMAC. Nitrate as  
23 nitrogen shall be analyzed by a 2 molar KCl extract in accordance with the analytical methodology required  
24 by Subsection B of 20.6.2.3224 NMAC. Chloride, organic matter, potassium, and sodium adsorption ratio  
25 shall be analyzed in accordance with the analytical methodology required by Subsection B of 20.6.2.3224  
26 NMAC.

27 (8) The permittee shall submit the analytical results and a map showing the fields and the  
28 sampling locations within each field to the department in the monitoring report due by May 1.

29  
30 **20.6.2.3226 ADDITIONAL MONITORING REQUIREMENTS FOR DAIRY FACILITIES**  
31 **DISCHARGING TO AN EVAPORATIVE WASTEWATER DISPOSAL SYSTEM: Wastewater to**  
32 **be Evaporated – Sampling and Reporting:** A permittee shall collect a composite wastewater sample on  
33 a quarterly-semi-annual (once every 6 months) basis from each wastewater or combination  
34 wastewater/stormwater impoundment used for disposal by evaporation. The composite sample from each  
35 impoundment shall consist of a minimum of six sub-samples collected around the entire perimeter of each  
36 impoundment and thoroughly mixed. Samples shall be analyzed for nitrate as nitrogen, total Kjeldahl

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1 nitrogen, chloride, sulfate total sulfur and total dissolved solids pursuant to Subsection B of 20.6.2.3224  
2 NMAC. A permittee shall submit the analytical results to the department in the quarterly monitoring  
3 reports due by May 1 and November 1.

4  
5 **20.6.2.3227 CONTINGENCY REQUIREMENTS FOR ALL DAIRY FACILITIES:**

6 **A. Exceedance of Ground Water Standards – All Monitoring Wells Except**  
7 **Impoundment Monitoring Wells. Any Monitoring Well:** If the constituent concentration in a ground  
8 water sample and in any subsequent ground water sample collected from the same monitoring well  
9 intended to monitor a contamination source indicate a water contaminant concentration that both other than  
10 an impoundment exceeds one or more of the ground water standards of Section 20.6.2.3103 NMAC and  
11 exceeds the concentration of such contaminant(s), constituent(s) in a ground water sample collected from  
12 the upgradient monitoring well, then the permittee shall take the following actions. For the purpose of this  
13 subsection, ground water samples obtained from the source monitoring well and the upgradient monitoring  
14 well that are used for comparison of constituent concentrations shall be collected within two days of each  
15 other. ~~If in the event~~ ground water quality data for the upgradient monitoring well are not submitted by the  
16 permittee, the ground water standards of Section 20.6.2.3103 NMAC shall be the applicable standard used  
17 to determine if the requirements of this subsection must be met.

18 ~~(1) For a monitoring well associated with an impoundment: Within 90 days of the~~  
19 ~~subsequent sample analysis date, the permittee shall submit and initiate implementation of a corrective~~  
20 ~~action plan pursuant to Subsection B of this section.~~

21 **(1)** For a monitoring well not associated with an impoundment: A corrective action plan  
22 shall be submitted ~~W~~within ~~90~~ 120 days of the subsequent sample analysis date unless a petition for  
23 variance is filed in accordance with paragraph (2) of this subsection. ~~, the permittee may investigate~~  
24 potential sources of contamination that may have caused a standard(s) to be exceeded and shall submit a  
25 corrective action plan to the department. The corrective action plan shall describe the results of the  
26 investigation of potential sources of the exceedance, describe any repairs made to address the cause of the  
27 exceedance, and propose source control measures and a schedule for implementation ~~through completion of~~  
28 source control measures. The implementation schedule shall include a schedule of all proposed corrective  
29 action activities and the date that corrective action will be completed. The department shall approve or  
30 disapprove the corrective action plan within 30 days of receipt. Within 30 days of ~~department approval the~~  
31 date of postal notice of the department's approval of the corrective action plan, the permittee shall initiate  
32 implementation of the ~~corrective action~~ plan. If the department does not approve the corrective action plan,  
33 the department shall notify the permittee of the deficiencies by certified mail. The permittee shall submit a  
34 revised corrective action plan to the department within 30 days of the date of postal notice of the notice of  
35 deficiency. The department shall approve or disapprove the corrective action plan within 30 days of  
36 receipt. If the department does not approve the revised corrective action plan, or if the permittee fails to

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1 submit a revised plan as required by this subsection, the department may pursue enforcement actions  
2 authorized by Section 74-6-10 NMSA 1978.

3 (32) The permittee may investigate potential sources of contamination that may have caused  
4 a standard(s) to be exceeded. If such an investigation indicates that the source of the contamination is not  
5 the source intended to be monitored by the well, the permittee may petition within 120 days of the  
6 subsequent sample analysis date for a variance from the requirements of this section in accordance with  
7 20.6.2.1210 NMAC. It is the permittee's burden to prove any claim that the source of the contamination is  
8 not the source intended to be monitored by the well. If the petition is denied the permittee shall submit a  
9 corrective action plan meeting the requirements of paragraph (1) of this subsection within 60 days of the  
10 denial.

11 ~~(3) If ground water monitoring shows that one or more standards of Section 20.6.2.3103 NMAC~~  
12 ~~continue to be exceeded at least 180 days after the subsequent sample analysis date, the permittee may be~~  
13 ~~shall required to submit an abatement plan proposal pursuant to Section 20.6.2.4106 NMAC within 60 349~~  
14 ~~days of written notice from the department the subsequent sample analysis date. Abatement shall be~~  
15 ~~performed pursuant to Sections 20.6.2.4101, 20.6.2.4103, 20.6.2.4104, and 20.6.2.4106 through~~  
16 ~~20.6.2.4115 NMAC.~~

17 ~~B. Exceedance of Ground Water Standards – Impoundment Monitoring Well: If the~~  
18 ~~constituent concentration in a ground water sample and in any subsequent ground water sample collected~~  
19 ~~from a monitoring well intended to monitor an impoundment(s) exceeds one or more of the ground water~~  
20 ~~standards of Section 20.6.2.3103 NMAC and exceeds the concentration of such constituent(s) in a ground~~  
21 ~~water sample collected from the upgradient monitoring well, then the permittee shall enact one of the~~  
22 ~~following measures. For the purpose of this subsection, ground water samples obtained from the~~  
23 ~~impoundment monitoring well and the upgradient monitoring well that are used for comparison of~~  
24 ~~constituent concentrations shall be collected within two days of each other. If in the event ground water~~  
25 ~~quality data for the upgradient monitoring well are not submitted by the permittee, the ground water~~  
26 ~~standard(s) of Section 20.6.2.3103 shall be the applicable standard(s) used to determine if the requirements~~  
27 ~~of this subsection must be met.~~

28 ~~(1) Pre-Dairy Rule Liner Not Composed of 40/30-mil HDPE (minimum) or Equivalent:~~  
29 ~~For impoundments utilizing a primary liner installed prior to the effective date of the dairy rules and~~  
30 ~~composed of a material that is not, at a minimum, 40-mil unreinforced HDPE, 30-mil reinforced HDPE, (or~~  
31 ~~other material having equivalent characteristics with regard to permeability, resistance to degradation by~~  
32 ~~ultraviolet light, compatibility with the liquids anticipated to be collected in the impoundment, tensile~~  
33 ~~strength, and tear and puncture resistance), the following actions shall be taken.~~

34 ~~(a) A corrective action plan shall be submitted within 90 120 days of the subsequent~~  
35 ~~sample analysis date unless a petition for variance is filed in accordance with subparagraph (c) of this~~  
36 ~~paragraph and shall include the following items. The corrective action plan shall describe any repairs or~~

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1 changes in practices made to address the cause of the exceedance, and propose source control measures and  
2 a schedule for implementation. The implementation schedule shall include a schedule of all proposed  
3 corrective action activities and the date that corrective action will be completed. The department shall  
4 approve or disapprove the corrective action plan within 30 days of receipt. If the corrective action plan  
5 proposes actions to correct deficiencies with the liner, the proposed actions shall include the following  
6 items.

7 (i) A proposal for reconstruction and relining of an existing impoundment or  
8 construction and lining of a new impoundment. Reconstruction or new construction shall be completed  
9 pursuant to Section 20.6.2.3217 NMAC within one year of the subsequent sample analysis date. If in the  
10 event a new impoundment is constructed, the existing impoundment shall be permanently closed pursuant  
11 to Section 20.6.2.3230 NMAC.

12 (ii) Reconstruction or construction plans and specifications for the  
13 impoundment shall be completed pursuant to Section 20.6.2.3217 NMAC.

14 (b) Within 30 days of the date of postal notice of the department's approval of the  
15 corrective action plan, the permittee shall initiate implementation of the plan. If the department does not  
16 approve the corrective action plan, the department shall notify the permittee of the deficiencies by certified  
17 mail. The permittee shall submit a revised correction action plan to the department within 30 days of the  
18 date of postal notice of the notice of deficiency. The department shall approve or disapprove the revised  
19 corrective action plan within 30 days of receipt. If the department does not approve the revised corrective  
20 action plan, or if the permittee fails to submit a revised plan as required by this subsection, the department  
21 may pursue enforcement actions authorized by Section 74-6-10 NMSA 1978. ~~The permittee shall submit~~  
22 an abatement plan proposal pursuant to Section 20.6.2.4106 NMAC within 90 days of the subsequent  
23 sample analysis date. Abatement shall be performed pursuant to Sections 20.6.2.4101, 20.6.2.4103,  
24 20.6.2.4104, and 20.6.2.4106 through 20.6.2.4115 NMAC.

25 (c) The permittee may investigate potential sources of contamination that may have  
26 caused a standard(s) to be exceeded. If such an investigation indicates that the source of the contamination  
27 is not the impoundment intended to be monitored by the well, the permittee may petition within 120 days of  
28 the subsequent sample analysis date for a variance from the requirements of this section in accordance with  
29 20.6.2.1210 NMAC. It is the permittee's burden to prove any claim that the source of the contamination is  
30 not the impoundment intended to be monitored by the well. If the variance is denied the permittee shall  
31 submit a corrective action plan meeting the requirements of subparagraph (a) of this paragraph within 60  
32 days of the denial.

33 (d) The permittee may be required to submit an abatement plan proposal pursuant to  
34 Section 20.6.2.4106 NMAC within 60 days of written notice from the department. Abatement shall be  
35 performed pursuant to Sections 20.6.2.4101, 20.6.2.4103, 20.6.2.4104, and 20.6.2.4106 through  
36 20.6.2.4115 NMAC.

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1           (2) ~~Dairy Rule Liner or Pre-Dairy Rule Liner Composed of 40/30-mil (minimum)~~  
2 ~~HDPE or Equivalent: For impoundments utilizing a primary liner installed after the effective date of the~~  
3 ~~dairy rules and composed of a material that is, at a minimum, 60-mil HDPE (or other material having~~  
4 ~~equivalent characteristics with regard to permeability, resistance to degradation by ultraviolet light~~  
5 ~~compatibility with the liquids anticipated to be collected in the impoundment, tensile strength, and tear and~~  
6 ~~puncture resistance), or impoundments utilizing a primary liner installed prior to the effective date of the~~  
7 ~~dairy rules and composed of a material that is, at a minimum, 40-mil unreinforced HDPE, 30-mil reinforced~~  
8 ~~HDPE, (or other material having equivalent characteristics with regard to permeability, resistance to~~  
9 ~~degradation by ultraviolet light, compatibility with the liquids anticipated to be collected in the~~  
10 ~~impoundment, tensile strength, and tear and puncture resistance), the following actions shall be taken.~~

11           (a) ~~Initial Liner: For impoundments where the existing liner is the initial liner~~  
12 ~~installed, the following actions shall be taken.~~

13           (i) ~~A corrective action plan shall be submitted within 120~~~~90~~ ~~days of the~~  
14 ~~subsequent sample analysis date unless a petition for variance is filed in accordance with item (iii) of this~~  
15 ~~subparagraph. The corrective action plan shall describe any repairs or changes in practices made to address~~  
16 ~~the cause of the exceedance, and propose source control measures and a schedule for implementation. The~~  
17 ~~implementation schedule shall include a schedule of all proposed corrective action activities and the date~~  
18 ~~that corrective action will be completed. The department shall approve or disapprove the corrective action~~  
19 ~~plan within 30 days of receipt. If the corrective action plan proposes actions to correct deficiencies with the~~  
20 ~~liner, the proposed actions shall include repair or replacement of the existing liner, or construction and~~  
21 ~~lining of a new impoundment. If liner ~~includes a proposal for the repair of the existing liner pursuant to~~~~  
22 ~~Section 20.6.2.3217 NMAC, if repair is practicable, repairs shall be made pursuant to Section 20.6.2.3217~~  
23 ~~NMAC or using a material that is equivalent to the existing liner with respect to material thickness and~~  
24 ~~composition. Repairs shall be completed within 180 days of the subsequent sample analysis date. If liner~~  
25 ~~repair is not practicable, the corrective action plan shall propose reconstruction and relining of the~~  
26 ~~impoundment pursuant to Section 20.6.2.3217 NMAC or construction and lining of a new impoundment~~  
27 ~~pursuant to Section 20.6.2.3217 NMAC within one year of the subsequent sample analysis date.~~  
28 ~~Reconstruction or construction plans and specifications for the impoundment shall be completed pursuant~~  
29 ~~to Section 20.6.2.3217 NMAC and submitted with the corrective action plan. If a new impoundment is~~  
30 ~~constructed the existing impoundment shall be closed pursuant to Section 20.6.2.3230 NMAC.~~

31           (ii) ~~In the event a new impoundment is constructed, the existing impoundment~~  
32 ~~shall be closed pursuant to Section 20.6.2.3230 NMAC.~~

33           (iii) ~~Within 30 days of the date of postal notice of the department's approval of~~  
34 ~~the corrective action plan, the permittee shall initiate implementation of the plan. If the department does~~  
35 ~~not approve the corrective action plan, the department shall notify the permittee of the deficiencies by~~  
36 ~~certified mail. The permittee shall submit a revised corrective action plan to the department within 30 days~~

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1 of the date of postal notice of the notice of deficiency. The department shall approve or disapprove the  
2 revised corrective action plan within 30 days of receipt. If the department does not approve the revised  
3 corrective action plan, or if the permittee fails to submit a revised plan as required by this subsection, the  
4 department may pursue enforcement actions authorized by Section 74-6-10 NMSA 1978. ~~The permittee~~  
5 ~~shall submit an abatement plan proposal pursuant to Section 20.6.2.4106 NMAC within 90 days of the~~  
6 ~~subsequent sample analysis date. Abatement shall be performed pursuant to Sections 20.6.2.4101,~~  
7 ~~20.6.2.4103, 20.6.2.4104, and 20.6.2.4106 through 20.6.2.4115 NMAC.~~

8 (iii) The permittee may investigate potential sources of contamination that may have caused a  
9 standard(s) to be exceeded. If such an investigation indicates that the source of the contamination is not the  
10 impoundment intended to be monitored by the well, the permittee may petition within 120 days of the  
11 subsequent sample analysis date for a variance from the requirements of this section in accordance with  
12 20.6.2.1210 NMAC. It is the permittee's burden to prove any claim that the source of the contamination is  
13 not the impoundment intended to be monitored by the well. If the variance is denied the permittee shall  
14 submit a corrective action plan meeting the requirements of item (i) of this subparagraph within 60 days of  
15 the denial.

16 (iv) The permittee may be required to submit an abatement plan proposal pursuant to Section  
17 20.6.2.4106 NMAC within 60 days of written notification from the department. Abatement shall be  
18 performed pursuant to Sections 20.6.2.4101, 20.6.2.4103, 20.6.2.4104, and 20.6.2.4106 through  
19 20.6.2.4115 NMAC.

20 (b) Replacement Liner: If source control measures have been previously  
21 implemented such that the existing primary liner replaced a previously installed liner in an impoundment  
22 and ground water standard(s) of Section 20.6.2.3103 NMAC continue to be exceeded, such impoundments  
23 are authorized to continue to receive wastewater or stormwater pursuant to the following requirements:

24 (i) The permittee may be required to submit a ~~An abatement plan proposal shall~~  
25 ~~be prepared pursuant to Section 20.6.2.4106 NMAC within 60 days of written notice from the department if~~  
26 ~~in the event abatement has not been previously implemented. The abatement plan proposal shall be~~  
27 ~~submitted within 90 days of the subsequent sample analysis date. Abatement shall be performed pursuant~~  
28 ~~to Sections 20.6.2.4101, 20.6.2.4103, 20.6.2.4104, and 20.6.2.4106 through 20.6.2.4115 NMAC.~~

29 (ii) ~~Should~~ If the results of abatement activities indicate ~~determine~~ that the  
30 replacement liner does ~~is~~ not successfully controlling the source of contamination, the department may  
31 modify the discharge permit pursuant to Subsection E of 20.6.2.3109 NMAC and include additional  
32 conditions pursuant to Subsection H of 20.6.2.3205 NMAC. The additional conditions shall address, but  
33 are not limited to, further source control measures. The requirements of 20.6.2.3215 NMAC shall apply to  
34 hearing requests on the proposed additional discharge permit conditions.

35 ~~B. Exceedance of Ground Water Standards - Impoundment Monitoring Well: If the~~  
36 ~~contaminant concentration in a ground water sample and in any subsequent ground water sample collected~~

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1 from a monitoring well intended to monitor an impoundment(s) exceeds one or more of the ground water  
2 standards of Section 20.6.2.3213 NMAC and exceeds the concentration of such constituent(s) in a ground  
3 water sample collected from the upgradient monitoring well, then within 90 days of the subsequent sample  
4 analysis date the permittee shall submit a corrective action plan proposing one or more of the following  
5 measures:

6 (1) For impoundments with a primary liner composed of material other than that required by  
7 Subsection D of 20.6.2.3217 NMAC, the corrective action plan shall include the following:

8 (a) A proposal for reconstruction and lining of an existing impoundment, or  
9 construction and lining of a new impoundment. Reconstruction or new construction shall be completed  
10 pursuant to Section 20.6.2.3217 NMAC within one year of the subsequent sample analysis date. In the  
11 event a new impoundment is constructed, the existing impoundment shall be permanently closed pursuant  
12 to Section 20.6.2.3230 NMAC.

13 (b) Construction plans and specifications for the impoundment shall be completed  
14 pursuant to Section 20.6.2.3217 NMAC.

15 (2) For impoundments with a primary liner composed of material consistent with that  
16 required by Subsection D of 20.6.2.3217 NMAC, the corrective action plan shall include the following:

17 (a) A proposal for the repair of the existing liner consistent with Section 20.6.2.3217  
18 NMAC, if repair is practicable. Repair shall be completed within 180 days of the subsequent sample  
19 analysis date. If repair is not practicable, the corrective action plan shall propose to replace the liner  
20 pursuant to Section 20.6.2.3217 NMAC or to construct a new lined impoundment pursuant to Section  
21 20.6.2.3217 NMAC within one year of the subsequent sample analysis date. If a new impoundment is  
22 constructed, the existing impoundment shall be closed pursuant to Section 20.6.2.3230 NMAC.

23 (b) Construction plans and specifications for the proposal shall be completed pursuant  
24 to Section 20.6.2.3217 NMAC.

25 **C. Monitoring Well Replacement:** If information available to the department indicates  
26 that a monitoring well(s) required by Section 20.6.2.3223 NMAC is not located hydrologically  
27 downgradient of the contamination source it is intended monitor, is not completed pursuant to Section  
28 20.6.2.3223 NMAC or contains insufficient water to effectively monitor ground water quality, a permittee  
29 shall install a replacement monitoring well(s). The replacement monitoring well(s) shall be installed within  
30 120 days of the date of postal notice of notification from the department and a survey of the replacement  
31 monitoring well(s) shall be performed within 150 days of the date of postal notice of notification from the  
32 department. The replacement monitoring well(s) shall be located, installed, completed, surveyed and  
33 sampled pursuant to Section 20.6.2.3223 NMAC. The permittee shall develop a monitoring well  
34 completion report pursuant to Subsection J of 20.6.2.3223 NMAC and submit it to the department within  
35 180 days of the date of postal notice of notification from the department.

36 **D. Exceedances of Permitted Maximum Daily Discharge Volume:** If the daily discharge

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1 | ~~volume reported pursuant to Subsection C of 20.6.2.3224 NMAC~~ exceeds the maximum daily discharge  
2 | volume authorized by the discharge permit is exceeded by more than ten percent for any ~~30-daily~~four  
3 | average daily discharge volumes ~~measurements~~ within any 12-week period~~90 consecutive days~~, the  
4 | permittee shall ~~complete and~~ submit within 60 days of the ~~fourth~~thirtieth exceedance: a corrective action  
5 | plan for reducing the discharge volume; or an application for a modified or renewed and modified  
6 | discharge permit pursuant to Section 20.6.2.3205 NMAC. Within 30 days of postal notice of department  
7 | approval, the permittee shall initiate implementation of the corrective action plan.

8 |       **E.       Insufficient Impoundment Capacity:** If a survey, capacity calculations, or settled  
9 | solids thickness measurements, indicate an existing impoundment is not capable of meeting the capacity  
10 | requirements required by Subsection D of 20.6.2.3217 NMAC, then within 90 days of the effective date of  
11 | the discharge permit the permittee shall submit a corrective action plan for department approval. The plan  
12 | may include, but is not limited to, proposals for constructing an additional impoundment, reducing the  
13 | ~~maximum-daily~~ discharge volume, removing accumulated solids, changing wastewater or stormwater  
14 | management practices, or installing an advanced treatment system. The corrective action plan shall include  
15 | a schedule for implementation through completion of corrective actions. The corrective action plan  
16 | schedule shall propose completion not to exceed one year from the submittal date of the initial corrective  
17 | action plan. Within 30 days of the date of postal notice of the department's approval of the corrective  
18 | action plan, the permittee shall initiate implementation of the ~~corrective action~~ plan. Should the corrective  
19 | action plan include removal of accumulated solids, solids shall be removed from the impoundment in a  
20 | manner that is protective of the impoundment liner. The plan shall include the method of removal, and  
21 | locations and methods for storage and disposal of the solids-slurry. If the plan proposes land application of  
22 | the solids-slurry, the plan must also include the analytical results of total Kjeldahl nitrogen and chloride  
23 | obtained from a representative sample of the solids-slurry to be applied.

24 |       **F.       Inability to Preserve Required Freeboard:** If a minimum of two feet of freeboard  
25 | cannot be preserved in the wastewater impoundment, the permittee shall submit a corrective action plan to  
26 | the department for approval. The corrective action plan shall be submitted within 30 days of the date of the  
27 | initial exceedance of the freeboard requirement. The plan may include, but is not limited to, proposals for  
28 | constructing an additional impoundment, reducing the maximum daily discharge volume, changing  
29 | wastewater management practices, or installing an advanced wastewater treatment system. The corrective  
30 | action plan shall include actions to be immediately implemented to regain and maintain a minimum of two  
31 | feet of freeboard until permanent corrective actions have been completed. The corrective action plan shall  
32 | include a schedule for implementation through completion of corrective actions. The corrective action plan  
33 | schedule shall propose completion not to exceed one year from the submittal date of the initial corrective  
34 | action plan. Within 30 days of the date of postal notice of the department's approval of the corrective  
35 | action plan, the permittee shall initiate implementation of the ~~corrective action~~ plan.

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1           **G. Impoundment – Structural Integrity Compromised:** Within 24 hours of discovery, a  
2 permittee shall report to the department, any damage to the berms or the liner of an impoundment or any  
3 condition that exists that may compromise the structural integrity of the impoundment. Within 15 days of  
4 the reported discovery, the permittee shall submit to the department a corrective action plan describing any  
5 actions taken or proposed to be taken to repair the damage or condition. Within 30 days of receipt, the  
6 department shall respond to the proposed corrective action plan. Repairs to the impoundment liner or  
7 berms shall be completed pursuant to Section 20.6.2.3217 NMAC. The corrective action plan shall include  
8 a schedule for implementation through completion of corrective actions. The corrective action plan  
9 schedule shall propose completion not to exceed one year from the submittal date of the initial corrective  
10 action plan. The schedule of corrective actions shall be commensurate to the magnitude and scope of the  
11 activities to be completed. Within 30 days of ~~the date of postal notice of the department's~~ approval ~~of the~~  
12 ~~corrective action plan~~, the permittee shall initiate implementation of the ~~corrective action~~ plan.

13           **H. Impoundments Utilizing Primary and Secondary Liners - Primary Liner Leakage:**  
14 Within 30 days of the date of discovering that the leakage rate of the leak detection system is increasing or  
15 that the functioning automated pump system is unable to keep the interstitial space between the liners free  
16 of fluids, the permittee shall submit a corrective action plan for department approval. The corrective action  
17 plan shall include a schedule for implementation through completion of corrective actions. The corrective  
18 action plan schedule shall propose completion not to exceed one year from the submittal date of the initial  
19 corrective action plan. 30 days of ~~the date of postal notice of the department's~~ approval ~~of the corrective~~  
20 ~~action plan~~, the permittee shall initiate implementation of the ~~corrective action~~ plan.

21           **I. Unauthorized Discharge - Reporting and Correction:** In the event of a spill or release  
22 that is not authorized by the discharge permit, the permittee shall notify the department and take corrective  
23 actions pursuant to Section 20.6.2.1203 NMAC. Wastewater or stormwater shall be contained and pumped  
24 to a permitted sump, impoundment, or land application area pursuant to the dairy rules. Wastewater or  
25 stormwater applied to the land application area shall conform to the requirements of Sections 20.6.2.3221  
26 and 20.6.2.3225 NMAC. The permittee shall repair or replace failed components within 48 hours from the  
27 time of failure or as soon as possible.

28  
29 **20.6.2.3228 ADDITIONAL CONTINGENCY REQUIREMENTS FOR DAIRY FACILITIES**

30 **WITH A LAND APPLICATION AREA:** ~~RESERVED~~ ~~Excessive Nitrogen Accumulation in Soil - If~~  
31 ~~soil sampling conducted pursuant to Subsections K and L of 20.6.2.3225 NMAC indicates that excessive~~  
32 ~~nitrogen accumulation has occurred within a field(s) within the land application area, a permittee shall~~  
33 ~~revise the nutrient management plan (NMP) to address the removal of the excessive nitrogen from the soil.~~  
34 ~~Revisions to the NMP shall be made by a certified professional, pursuant to Subsection K of 20.6.2.3221~~  
35 ~~NMAC. The NMP revisions to address excessive nitrogen accumulations within a field(s) shall be~~  
36 ~~incorporated into the subsequent annual update to the NMP and shall be submitted to the department~~

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1 ~~Paraphrase of Subsection K of 20.6.2.3221 NMAC~~

2  
3 **20.6.2.3229 ADDITIONAL CONTINGENCY REQUIREMENTS FOR DAIRY FACILITIES**

4 **DISCHARGING TO AN EVAPORATIVE WASTEWATER DISPOSAL SYSTEM: Inability to**  
5 **Maintain Required Freeboard:** If a combination wastewater/stormwater impoundment used for disposal  
6 by evaporation does not have free capacity below the two-foot freeboard level required by Subsection D of  
7 20.6.2.3217 NMAC, then within seven days of the date of discovery of insufficient free capacity the  
8 permittee shall submit a corrective action plan for department approval. The plan shall include, but is not  
9 limited to, a request for temporary permission to discharge to allow immediate removal and disposal of  
10 combined wastewater and stormwater; a proposal for long-term corrective actions which may include  
11 constructing an additional impoundment; reducing the ~~maximum daily~~ discharge volume; changing  
12 wastewater or stormwater management practices; or installing an advanced treatment system. The  
13 corrective action plan shall include schedule for implementation to complete corrective actions within one  
14 year from the submittal date of the initial corrective action plan. Upon department approval, the permittee  
15 shall initiate implementation of the corrective action plan.

16  
17 **20.6.2.3230 CLOSURE REQUIREMENTS FOR ALL DAIRY FACILITIES:**

18 **A. Permanent Closure of Dairy Facility or Impoundments:** The following closure actions shall be  
19 performed at dairy facilities:

20 (1) For permanent closure of a dairy facility:

21 (a) The department shall be notified no later than 30 days after wastewater discharge  
22 has permanently ceased at the dairy facility.

23 (b) Installation of all monitoring wells shall be completed pursuant to Section  
24 20.6.2.3223 NMAC.

25 (c) All wastewater and combination wastewater/stormwater impoundments shall be  
26 emptied ~~of wastewater and stormwater~~ within six months of permanently ceasing wastewater discharge at  
27 the dairy facility; combination wastewater/stormwater impoundments may continue to receive stormwater  
28 after removal of the impounded wastewater/stormwater. All stormwater and combination wastewater  
29 /stormwater impoundments shall be emptied of stormwater within ~~six months~~ one year of removing all  
30 livestock from the dairy facility. Wastewater and stormwater removed from impoundments shall be applied  
31 to the designated land application area, as authorized by a discharge permit. In the event that land  
32 application is not authorized by a discharge permit, a disposal plan shall be submitted for department  
33 approval and the plan implemented upon department approval.

34 (d) Manure solids and compost shall be removed from surface areas at the dairy  
35 facility and applied to the designated land application area, as authorized by a discharge permit, or  
36 transferred off-site for proper disposal within one year of removing all livestock from the facility.

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1 (e) Complete removal of manure solids from the wastewater impoundment(s) shall be  
2 achieved within two years of permanently ceasing wastewater discharge. Complete removal of manure  
3 solids from the stormwater and combination wastewater/stormwater impoundment(s) shall be achieved  
4 within two years of removing all livestock from the dairy facility. Manure solids shall be applied to the  
5 designated land application area, as authorized by a discharge permit. In the event that land application is  
6 not authorized by a discharge permit, a disposal plan shall be submitted for department approval and the  
7 plan implemented upon department approval.

8 (f) Impoundment liners shall be perforated or removed and the impoundments shall be  
9 re-graded with clean fill to blend with surface topography to prevent ponding within two years of  
10 permanently ceasing wastewater discharge and removing all livestock from the facility.

11 (2) For closure of ~~existing-an~~ impoundments ~~upon replacement with new impoundments at a~~  
12 ~~facility not undergoing permanent closure (e.g., existing impoundment replaced with new impoundment):~~

13 (a) ~~Existing~~ impoundments shall be emptied of wastewater and stormwater within six  
14 months of ~~completion of the new~~ ceasing receipt of wastewater or stormwater into the impoundments.  
15 Wastewater and stormwater removed from ~~existing~~ impoundments shall be applied to the designated land  
16 application area, as authorized by a discharge permit. ~~In the event that~~ If land application is not authorized  
17 by a discharge permit, a disposal plan shall be submitted for department approval and the plan implemented  
18 upon department approval.

19 (b) Complete removal of manure solids from ~~existing~~ impoundments shall be achieved  
20 within two years of ~~completion of the new~~ ceasing receipt of wastewater or stormwater into the  
21 impoundments. Manure solids shall be applied to the designated land application area, as authorized by a  
22 discharge permit. ~~If in the event that~~ land application is not authorized by a discharge permit, a disposal  
23 plan shall be submitted for department approval and the plan implemented upon department approval.

24 (c) ~~Existing~~ Liners in impoundments ~~liners~~ shall be perforated or removed and the  
25 ~~existing~~ impoundments shall be re-graded with clean fill to blend with surface topography to prevent  
26 ponding within two years of ~~completion of the new~~ ceasing receipt of wastewater or stormwater into the  
27 impoundments. ~~Unless the impoundment will be maintained for another use as specified in a closure plan~~

28 **B. Post-Closure Ground Water Sampling and Reporting:** Following completion and  
29 confirmation by the department of the requirements of Subsection A of this section, ground water  
30 monitoring shall continue pursuant to Section 20.6.2.3223 NMAC until a minimum of eight consecutive  
31 ground water sampling events confirm that the standards of Section 20.6.2.3103 NMAC are not exceeded  
32 and the total nitrogen concentration in ground water is less than or equal to 10 milligrams per liter. If  
33 monitoring results show that one or more of the standards of Section 20.6.2.3103 NMAC is exceeded or the  
34 total nitrogen concentration in ground water is greater than 10 milligrams per liter, the permittee shall  
35 implement contingency requirements pursuant to Section 20.6.2.3227 NMAC. Upon notification from the  
36 department that post-closure ground water monitoring may cease, the permittee shall abandon all

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1 monitoring wells and submit a report to the department pursuant to Subsection C of this section.

2 **C. Monitoring Well Abandonment:** Upon notification from the department, the permittee  
3 shall abandon monitoring wells pursuant to Part 19.27.4 NMAC and the following requirements.

4 (1) The well casing shall be removed and ~~bentonite-cement grout, neat cement grout, or~~  
5 ~~bentonite grout~~ based plugging material, or other sealing material approved by the state engineer in  
6 accordance with Part 19.27.4 NMAC ~~prepared as specified in Section 20.6.2.3223 NMAC~~, shall be placed  
7 from the bottom of the borehole to the ground surface using a tremmie pipe.

8 (2) If the casing cannot be removed, ~~bentonite-cement grout, neat cement grout, or bentonite~~  
9 ~~grout~~ based plugging material, or other sealing material approved by the state engineer in accordance with  
10 Part 19.27.4 NMAC shall be placed in the well using a tremmie pipe from the bottom of the well to the  
11 ground surface.

12 (3) A well abandonment report shall be prepared by the permittee and shall provide  
13 information equivalent to the plugging record requirements of Part 19.27.4 NMAC. The well abandonment  
14 report shall be submitted to the department within 60 days of completion of well plugging activities.

15 **B. Discontinuance of Ground Water Monitoring – Former Impoundments:** Ground water  
16 monitoring conducted at previously utilized impoundments pursuant to Subsection A of 20.6.2.3223  
17 NMAC may be discontinued following closure of the impoundment pursuant to Subsection A of this  
18 section. Upon the achievement of a minimum of eight consecutive ground water sampling events  
19 following completion of closure confirming the conditions of Paragraph (1) and (2) of this subsection, the  
20 permittee may request approval to discontinue ground water monitoring at previously utilized  
21 impoundments. Upon approval from the department, the permittee shall abandon the monitoring wells  
22 pursuant to Subsection C of this section.

23 (1) Ground water samples from the monitoring wells used to monitor the former  
24 impoundments confirm that the standards of Section 20.6.2.3103 NMAC are not exceeded.

25 (2) The total nitrogen concentration in ground water samples from monitoring wells used to  
26 monitor the former impoundments confirm that the total nitrogen concentration in ground water does not  
27 exceed 10 milligrams per liter.

28  
29  
30 **E. Discontinuance of Ground Water Monitoring – Former Fields:** Ground water  
31 monitoring conducted at previously utilized fields within a land application area pursuant to Subsection A  
32 of 20.6.2.3223 NMAC may be discontinued following cessation of land application of wastewater or  
33 stormwater to the field(s). Upon the achievement of a minimum of eight consecutive ground water  
34 sampling events following cessation of land application of wastewater or stormwater confirming the  
35 conditions of Paragraph (1) and (2) of this subsection, the permittee may request approval to discontinue

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1 ~~ground water monitoring at previously utilized fields. Upon approval from the department, the permittee~~  
2 ~~shall abandon the monitoring wells pursuant to Subsection C of this section.~~

3 ~~(1) Ground water samples from the monitoring wells used to monitor the former fields~~  
4 ~~confirm that the standards of Section 20.6.2.3103 NMAC are not exceeded.~~

5 ~~(2) The total nitrogen concentration in ground water samples from monitoring wells used to~~  
6 ~~monitor the former fields confirm that the total nitrogen concentration in ground water does not exceed 10~~  
7 ~~milligrams per liter.~~

8  
9 **20.6.2.3231 ADDITIONAL CLOSURE REQUIREMENTS FOR DAIRY FACILITIES WITH**  
10 **A LAND APPLICATION AREA: [RESERVED]**

11  
12 **20.6.2.3232 ADDITIONAL CLOSURE REQUIREMENTS FOR DAIRY FACILITIES**  
13 **DISCHARGING TO AN EVAPORATIVE WASTEWATER DISPOSAL SYSTEM: [RESERVED]**

14  
15 **20.6.2.3233 RECORD RETENTION REQUIREMENTS FOR ALL DAIRY FACILITIES:**

16 **A.** A permittee shall retain a written record at the dairy facility of all data and information  
17 related to field measurements, sampling, and analysis conducted pursuant to this part and the discharge  
18 permit. The following information shall be recorded and shall be made available to the department upon  
19 request:

- 20 (1) the dates, exact place and times of sampling or field measurements;
- 21 (2) the name and job title of the individuals who performed each sample collection or field  
22 measurement;
- 23 (3) the date of the analysis of each sample;
- 24 (4) the name and address of the laboratory and the name and job title of the person that  
25 performed the analysis of each sample;
- 26 (5) the analytical technique or method used to analyze each sample or take each field  
27 measurement;
- 28 (6) the results of each analysis or field measurement, including raw data;
- 29 (7) the results of any split, spiked, duplicate or repeat sample; and
- 30 (8) a description of the quality assurance and quality control procedures used.

31 **B.** A permittee shall retain a written record at the dairy facility of any spills, seeps, or leaks  
32 of effluent, and of leachate or process fluids not authorized by the discharge permit. Records shall be made  
33 available to the department upon request.

34 **C.** A permittee shall retain a written record at the dairy facility of the operation,  
35 maintenance, and repair of all features/equipment used to treat, store or dispose of wastewater, measure  
36 flow rates, monitor water quality, or collect other data. Records shall include repair, replacement or

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1 calibration of any monitoring equipment and repair or replacement of any equipment used in the waste or  
2 wastewater treatment and disposal system. Records shall be made available to the department upon  
3 request.

4       **D.**       A permittee shall retain records of all monitoring information at the dairy facility,  
5 including all calibration and maintenance records, copies of all reports, and the application for the  
6 discharge permit. Records shall be retained for a period of at least 10 years from the date of the sample  
7 collection, measurement, report or application.

8  
9 **20.6.2.3234       TRANSFER OF DAIRY DISCHARGE PERMITS:**

10       **A.**       Transfer of discharge permits for dairy facilities shall be made pursuant to 20.6.2.3111  
11 NMAC and this section.

12       **B.**       The transferee(s) shall notify the department, in writing, of the date of transfer of  
13 ownership and provide contact information for the new owner(s) pursuant to Subsection B of  
14 20.6.2.3206 NMAC and Subsection CB of 20.6.2.3207 NMAC. Notification shall be submitted to the  
15 department of the transfer within 30 days of the ownership transfer date.

16  
17 **20.6.2.3235       CONTINUING EFFECT OF PRIOR ACTIONS DURING TRANSITION:**

18       **A.**       A discharge permit issued pursuant to Section 20.6.2.3109 NMAC that has not expired on  
19 or before the effective date of the dairy rules shall remain in effect and enforceable pursuant to the terms  
20 and conditions of the discharge permit.

21       **B.**       An application for a new discharge permit or a an application for a renewed or modified  
22 discharge permit submitted to the department before the effective date of the dairy rules, shall be processed  
23 by the department if the application has been deemed administratively complete and the requirements of  
24 Subsection D of 20.6.2.3108 NMAC have been satisfied. The applicant shall submit a permit fee payment  
25 equal to one-half of the applicable permit fee from Table 1 of 20.6.2.3114 NMAC within 90 days of the  
26 effective date of the dairy rules.

27       **C.**       If a discharge permit for a dairy facility is expired on the effective date of the dairy rules  
28 and an application for renewal has not been received by the department, the permittee, owner of record of  
29 the dairy facility or the holder of the expired discharge permit:

30               (1) shall within 90 days of the effective date of the dairy rules submit to the department an  
31 application for a discharge permit renewal, renewal and modification or closure pursuant to 20.6.2.3205  
32 NMAC and a filing fee and permit fee payment pursuant to 20.6.2.3204 NMAC; or

33               (2) if the dairy facility has not been constructed or operated, the permittee, the owner of  
34 record of the dairy facility or the holder of the expired discharge permit may submit a statement to the  
35 department instead of an application for renewal certifying that the facility has not been constructed or  
36 operated and that no discharges have occurred. Upon the department's verification of the certification, the

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1 department shall retire the discharge permit number from use.

2           **D.**       The department shall process submissions meeting the requirements of Subsections B and  
3 C of this section according to the following schedule and subject to the public notice requirements of  
4 Section 20.6.2.3108 NMAC. If the department issues a discharge permit, the permittee shall have ninety  
5 days from the effective date of the discharge permit to submit all the necessary information to comply with  
6 Sections 20.6.2.3205 through 20.6.2.3208 NMAC.

7           (1)       For a new discharge permit application or for a renewal application for a discharge  
8 permit whose term ended on or before December 31, 2005, the department shall propose approval of a  
9 discharge permit or disapproval of an application within 90 days of the effective date of the dairy rules.  
10 The department shall notify the applicant of the proposed action by certified mail.

11           (2)       For a renewal application for a discharge permit whose term ended in calendar year  
12 2006, the department shall propose approval of a discharge permit or disapproval of an application within  
13 180 days of the effective date of the dairy rules. The department shall notify the applicant of the proposed  
14 action by certified mail.

15           (3)       For a renewal application for a discharge permit whose terms ended in calendar year  
16 2007, the department shall propose approval of a discharge permit or disapproval of an application within  
17 270 days of the effective date of the dairy rules. The department shall notify the applicant of the proposed  
18 action by certified mail.

19           (4)       For a renewal application for a discharge permit whose terms ended in calendar year  
20 2008, the department shall propose approval of a discharge permit or disapproval of an application within  
21 360 days of the effective date of the dairy rules. The department shall notify the applicant of the proposed  
22 action by certified mail.

23           (5)       For a renewal application for a discharge permits whose term ended in calendar year  
24 2009, the department shall propose approval of a discharge permit or disapproval of an application within  
25 450 days of the effective date of the dairy rules. The department shall notify the applicant of the proposed  
26 action by certified mail.

27           (6)       For a renewal application for a discharge permit whose term ended on or after January 1,  
28 2010 but before the effective date of this section, the department shall propose approval of a discharge  
29 permit or disapproval of an application within 540 days of the effective date of the dairy rules. The  
30 department shall notify the applicant of the proposed action by certified mail.

31           **E.**       Any dairy facility discharging, capable of recommencing discharging, or that has ceased  
32 discharging within the term of its most recent discharge permit shall continue all monitoring and submittal  
33 of monitoring reports as prescribed in the most recent discharge permit until the department issues a  
34 renewed or renewed and modified discharge permit.

35           **F.**       Any discharge permit proposed for approval (i.e., draft discharge permit) by the  
36 department pursuant to Section 20.6.2.3109 NMAC, but not made final before the effective date of the

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- 1 dairy rules, is withdrawn. Any permit fee submitted before the withdrawal of such a draft discharge permit
- 2 shall be applied towards the permit fee for the permit issued pursuant to the dairy rules.

