

# **NUTRIENT MANAGEMENT PLAN**

**2014-2019 Permit Term**

## **UTAH POLLUTANT DISCHARGE ELIMINATION SYSTEM (UPDES) GENERAL PERMIT FOR CONCENTRATED ANIMAL FEEDING OPERATIONS (CAFOs)**

*Prepared for:*



**Cal-Maine Foods, Inc.**

**Cal-Maine Foods, Inc.**

Delta Egg Farm  
9246 North 4000 West  
Delta, UT 84624

*Revised August 2017*

*Prepared By:*



**Enviro-Ag Engineering, Inc.**

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*Cal-Maine Foods, Inc.*  
Delta, Millard County, UT

|  |           |
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**NUTRIENT MANAGEMENT PLAN (NMP)**  
developed for

**Cal-Maine Foods, Inc. – Delta Egg Farm**

**CAFO/AFO OWNER/OPERATOR**

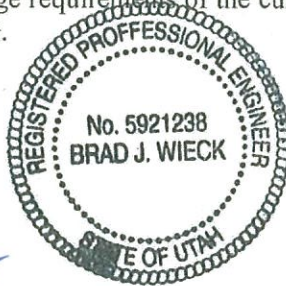
I certify that I have been involved in the development of this plan and I understand the conservation practices and implementation schedules contained in my Nutrient Management Plan (NMP). I understand that I am responsible for the record keeping and operation and maintenance associated with the implementation of my NMP. I agree to contact the certified planner for a plan revision/update if the number of animal units or manure handling practices change significantly. I also agree that any substitutions or changes to the conservation practices or schedules must be in accordance with the NRCS-Field Office Technical Guide (FOTG) and with state rules and regulations governing my operation.

*Jim Paul* 11/23/15  
Owner/Operator Date

**MANURE AND WASTEWATER HANDLING/STORAGE**

I certify that the facility meets, or will meet or exceed after some corrective action, the manure and wastewater handling and storage requirements of the current state authorization applicable to the operation and the NRCS-FOTG.

SEAL >



*Brad J. Wieck, PE* 11/23/15  
Licensed Professional Engineer Date

**LAND TREATMENT**

I certify that all land treatment practices identified in the NMP are planned in accordance with the NRCS-FOTG.

*Amelia Paronell TSP-03-1934* 11/23/15  
NRCS Certified Conservation Planner Date

**NUTRIENT MANAGEMENT**

I certify that the Nutrient Management Plan was developed in accordance with NRCS Conservation Practice Standard 590 (Nutrient Management).

*Amelia Paronell* TSP-03-1934 11/23/15  
Certified Nutrient Mgmt Specialist Cert. No. Date

|                                      |
|--------------------------------------|
| <b>SECTION 1    NOTICE OF INTENT</b> |
|--------------------------------------|

| <p align="center"><b>NOTICE OF INTENT</b></p> <p align="center">Utah Pollutant Discharge Elimination System,</p> <p align="center"><b>Concentrated Animal Feeding Operation (CAFO) General Permit,</b></p> <p align="center"><b>Permit Number UTG08000</b></p>  |  |  |
|---|--|--|
| <p>Submission of this Notice of Intent (NOI) with a complete NRCS certified planner approved Nutrient Management Plan (NMP) constitutes application for coverage under this CAFO General Permit. The NOI and NMP must be approved by the Utah Division of Water Quality for permit coverage to be granted under the general permit. Once permit coverage is granted, the permittee is obligated to comply with the requirements and conditions of the permit.</p> |  |  |
| <p align="center"><b>Required NOI Content</b></p> <p align="center">(Attach additional pages if needed)</p>   | <p align="center"><i>(Division Use Only)</i></p> <p>Assigned CAFO General Permit Number: _____</p> |  |
| 1. Name(s) of responsible owners and operators.   | <p>1. <b>Cal-Maine Foods, Inc.</b></p> <p>2. <b>Scott Patton, General Manager</b></p>              |  |
| 2. Two contact phone numbers, if available.   | 1. [REDACTED]  | 2.   |
| 3. Facility name.   | <b>Delta Egg Farm</b>  |  |
| 4. Type of facility (dairy, beef feedlot, etc.).  | <b>Laying Hens</b>   |  |
| 5. Facility physical address.   | Street Address: <b>9246 North 4000 West</b>  |  |
|   | Town/City, State, Zip: <b>Delta, UT 84624</b>  |  |
|   | Other location: (milepost, etc)  |  |
|   | County: <b>Millard County</b>  |  |
| 6. Mailing address.   | Street Address, PO Box, other: <b>9246 North 4000 West</b>   |  |
|   | Town/City, State, Zip: <b>Delta, UT 84624</b>  |  |
| 7. Email address <i>(optional)</i> :  | 1. <b>spatton@cmfoods.com</b>  |  |
|   | 2.   |  |
| 8. Latitude and longitude of production area or on-site office.   | Location of lat/long (office or production area:   |  |
|   | Latitude North: <b>39.489</b>  |  |
|   | Longitude West: <b>112.650</b>   |  |
| 9. Attach with the NOI, a topographic map of the geographic area in which the CAFO is located showing the specific location of the production area and any nearby surface waters of the state .   |  |  |
| 10. The name and location of the nearest surface water. Describe any conveyances to any surface waters of the State (washes, ditches, canals, pipes, culverts, etc.).   | Name of nearest surface water: <b>Topaz Slough</b>   |  |
|   | Location of surface water from production area: <b>Approx. 7 mi WSW</b>                            |  |
|   | Conveyances to surface water: <b>Overland flow, off-site ditches, canals, culverts, etc.</b>       |  |
| 11. Type of animals (cows, calves, pullets, layers, swine over 55 pounds, swine under 55 pounds, etc.), and average weight of each type.  | Type of Animal   | Average Weight                                     |
|   | 1. <b>Layers</b>   | <b>4 lbs</b>                                       |
|   | 2. <b>Pullets</b>  | <b>1.5 lbs</b>                                     |
|   | 3.   |  |
|   | 4.   |  |
|   | 5.   |  |
| 12. Number of animals for each type, and type of containment (housed, open lot, barn, etc.).  | Number of Animals for Each Type  | Containment Type                                   |
|   | 1. <b>1,229,374 Layers</b>   | <b>Enclosed High-rise and/or Manure Belt Barns</b> |
|   | 2. <b>360,000 Pullets</b>  | <b>Enclosed High-rise Barns</b>                    |
|   | 3.   |  |
|   | 4.   |  |
|   | 5.   |  |



| 13. Type and number of solid and liquid waste retention, treatment, containment, and storage (anaerobic lagoon, evaporation pond, underfloor pit, concrete pad, storage shed, aerobic pond, manure pit, tailwater pond, concrete bunker, tanks, solid separator, runoff pond, bermed compost area, in-corral composting, etc.).<br><br>Storage Capacity for manure, litter, compost, and process wastewater (tons, gallons, etc.) of each structure. | Type  | Number | Storage Capacity  |
|--|---|--------|-------------------|
|  | 1. Underfloor Pits and/or Enclosed Barn   | 15     | 44,800 tons total |
|  | 2. Evaporation Lagoon   | 1      | 6.07 ac-ft        |
|  | 3. Bermed Compost Area  | 1      | 11,200 tons       |
|  | 4.  |        |                   |
|  | 5.  |        |                   |
|  | 6.  |        |                   |
|  | 7.  |        |                   |
|  | 8.  |        |                   |
|  | 9.  |        |                   |
| 10.  |   |        |                   |
| 14. Total number of acres under control of the applicant available for land application of manure, litter, compost, process wastewater.  | Number of acres for land application: Total Evaporation; Manure hauled off-site |        |                   |
| 15. Estimated amounts of manure, litter, compost, and process wastewater generated per year (tons, gallons, etc.).   | Amount of manure generated: 14,213 tons dry                                     |        |                   |
|  | Amount of litter generated: n/a   |        |                   |
|  | Amount of compost generated: 1,800 tons   |        |                   |
|  | Amount of process wastewater generated: 1,460,000 gallons                       |        |                   |
| 16. Estimated amounts of manure, litter, compost, and process wastewater transferred or sold to other persons per year (tons, gallons, etc.).  | Amount of manure transferred or sold: 14,213 tons dry                           |        |                   |
|  | Amount of litter transferred or sold: n/a                                       |        |                   |
|  | Amount of compost transferred or sold: 1,800 tons                               |        |                   |
|  | Amount of process wastewater transferred or sold: n/a                           |        |                   |

### Certified Planner Signature

I certify that I am a Natural Resources Conservation Service (NRCS) approved certified planner qualified to review and approve nutrient management plans (NMPs) for compliance with NRCS NMP planning practices and NRCS standard practices. I certify that the NMP developed for the facility submitting this NOI for permit coverage complies with Parts VII, VIII, IX, XI, and XII of the CAFO permit and all applicable NRCS practice standards, including Practice 590 and UMARI. The NMP, if fully implemented, will be in accordance with all NMP permit requirements and all applicable NRCS practice standards for the facility.

I approve the nutrient management plan for the facility seeking permit coverage under this NOI.

  
Signature

8/15/17  
Date

Amissa Purswell  
Print Name

### Applicant Signature

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

  
Signature

8/15/17  
Date

Scott Patton  
Print Name



## Summary

### 1.1 Permittee

Owner/Operator: Cal-Maine Foods, Inc.  
Address: 9246 North 4000 West, Delta, UT 84624  
County: Millard

### 1.2 Facility Information

Physical Location: 9246 North 4000 West, Delta, UT 84624  
Latitude: 3.489° N  
Longitude: 112.650° W  
Nearest Receiving Water: Topaz Slough  
Watershed: Lower Sevier River

Production Capacity:

| <u>Animal Type</u> | <u>Current Permit</u> | <u>Updated Permit</u> |
|--------------------|-----------------------|-----------------------|
| Layers             | 1,194,000             | 1,229,374             |
| Pullets            | 310,500               | 360,000               |
| <b>Total</b>       | <b>1,504,500</b>      | <b>1,589,374</b>      |

*Revised 8/15/17*

### 1.3 Nature of Business Producing Waste

Concentrated Animal Feeding Operation (CAFO): Poultry – Commercial Egg Production

### 1.4 NMP Changes

A summary of the changes to the NMP from the previous versions (dated January 2013 by John George, P.E., and dated November 2015 by EAE) is summarized in the following table. The most current version of the NMP will be maintained on-site or locally available for a period of 5 years from the date it is created.

| <u>Item:</u>     | <u>Summary of Changes:</u>   |
|------------------|--|
| Notice of Intent | <ul style="list-style-type: none"><li>• Item 12 – Revised current and proposed bird counts*</li><li>• Item 15 – Revised manure, compost and process water amounts to reflect current and proposed bird counts*</li><li>• Item 16 – Revised manure and compost transfer amounts to reflect current and proposed bird counts</li></ul> |
| NMP              | <ul style="list-style-type: none"><li>• Revised entire plan to reflect bird counts, total evaporation of egg wash water, and total off-site transfer of manure and compost.*</li><li>• Revised site map to reflect the addition of a manure storage barn, disinfection stations and biosecure employee breakrooms.</li></ul>         |

|                |  |
|----------------|--|
|                | <ul style="list-style-type: none"> <li>• Updates requested by DEQ via email dated 12/30/2016.</li> </ul>   |
| Record Keeping | <ul style="list-style-type: none"> <li>• Update recordkeeping requirements to comply with the permit.</li> <li>• Use of CAFOPRO® for facility record keeping.</li> </ul> |

*\* Note: These items denote a “substantial” change for purposes of the permit.*

***Revised 8/15/17***

## SECTION 2 FACILITY MAPS

### **Figure 2.1 - Vicinity Map**

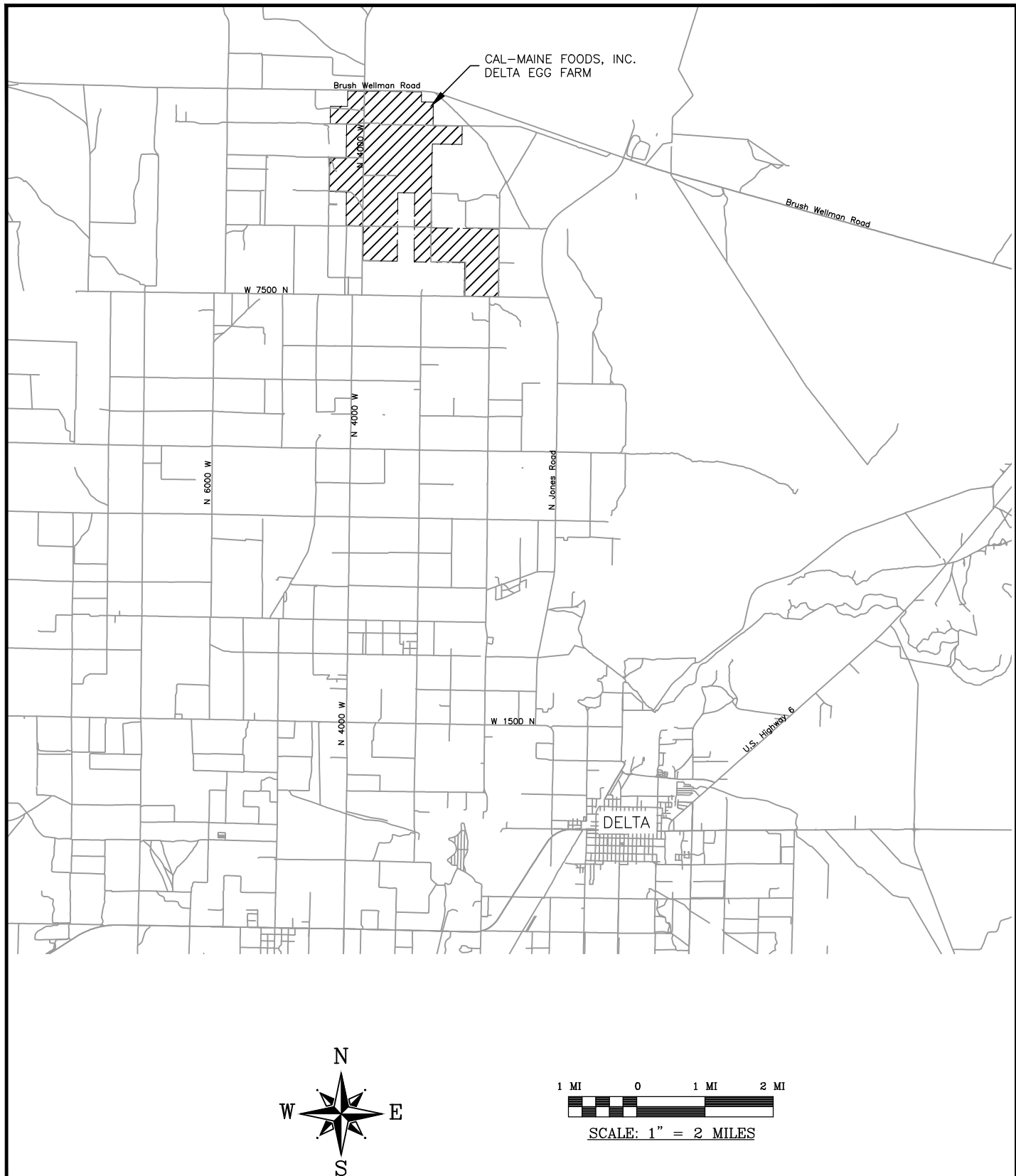
Figure 2.1, entitled Vicinity Map, depicts the location of the facility on map.

### **Figure 2.2 – USGS 7.5-Minute Quadrangle Map**

Figure 2.2, entitled USGS 7.5-Minute Quadrangle Map is a seamless, high-quality copy of the 7.5-minute USGS quadrangle map that depicts the boundaries of land owned, operated, or controlled by Cal-Maine Foods, Inc., and used as part of the concentrated animal feeding operation and all springs, lakes, or ponds located on-site.

### **Figure 2.3 – Site Map**

Figure 2.3, entitled Site Map, is a scaled drawing depicting the location of the production areas and associated waste and wastewater facilities. The site map will be maintained in the on-site NMP and updated on an as-needed basis.



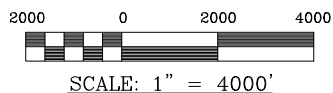
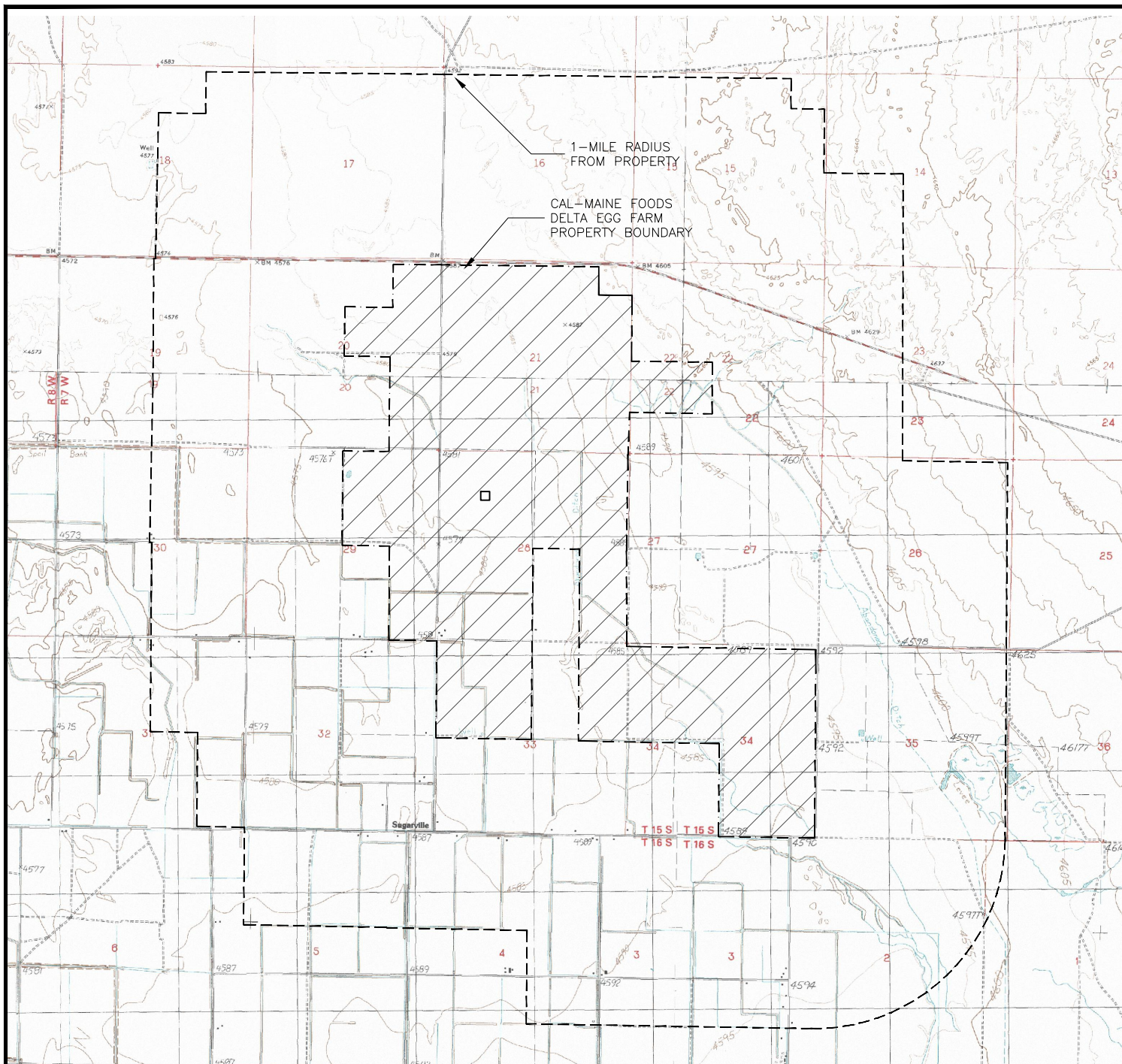
SOURCE: U.S. Census TIGER Road Data, Millard County, UT.

DELTA EGG FARM  
DELTA  
MILLARD COUNTY, UTAH

VICINITY MAP  
Figure 2.1  
Date: SEPTEMBER 2015



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SOURCE: USDA-NRCS Digital Raster Graphic Mosaic, Millard County, Utah  
 – retrieved 6/2013. <http://datagateway.nrcs.usda.gov>  
 MAP PROJECTION: Utah State Plane Central Zone, NAD83, U.S. Foot.

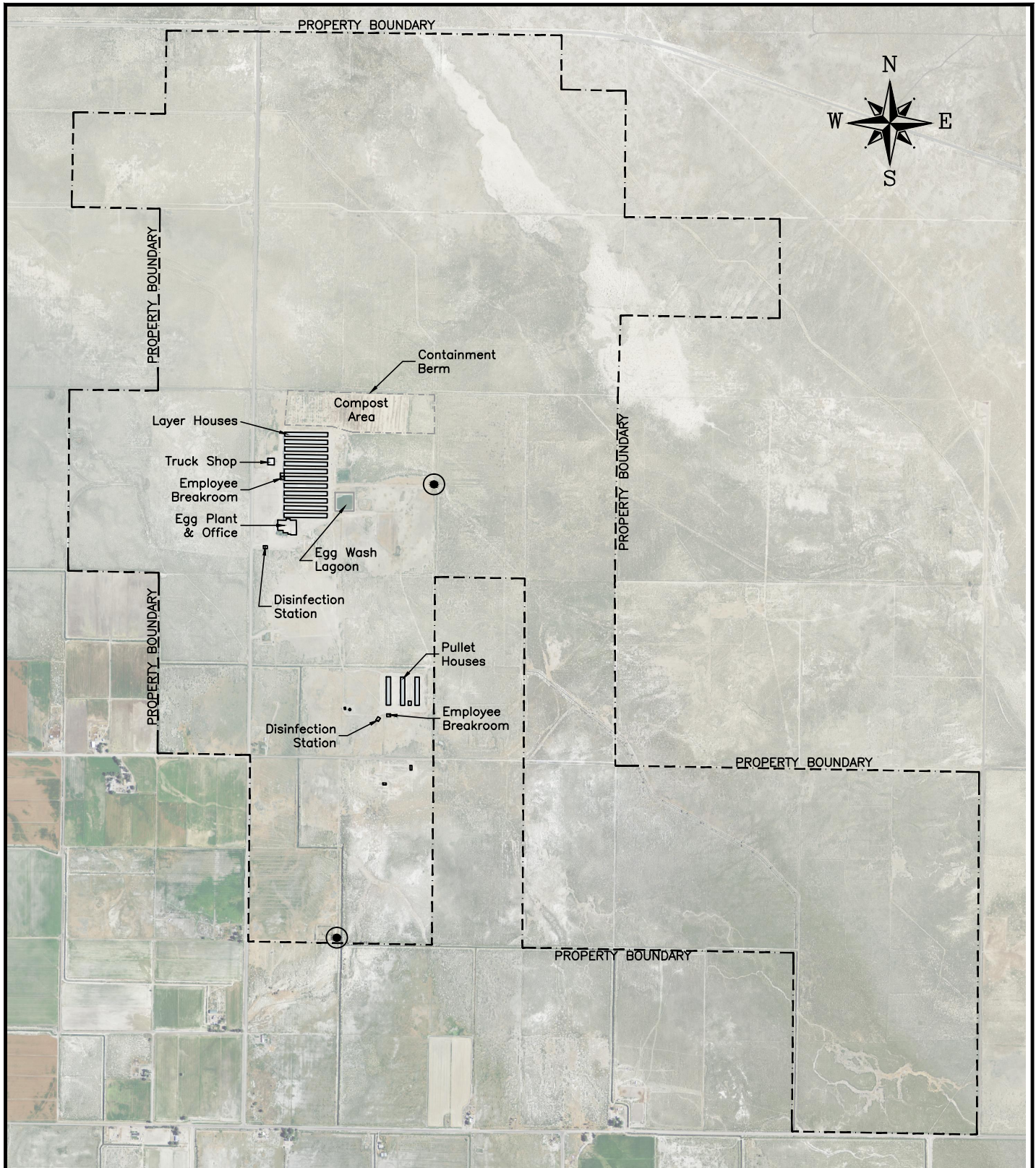
DELTA EGG FARM  
 DELTA, UTAH  
 MILLARD COUNTY

7.5-MINUTE USGS MAP  
 FIGURE 2.2  
 OCTOBER 2015



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 AMARILLO, TEXAS 79118  
 TEL (806) 353-6123 FAX (806) 353-4132





LEGEND:

● Water well w/ setback

1000 0 1000 2000



SCALE: 1" = 2000'

SOURCE: Seamless Digital Orthophoto, Millard County, UT.

DELTA EGG FARM  
DELTA  
MILLARD COUNTY, UTAH

SITE MAP  
Figure 2.3  
Date: OCTOBER 2015



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AMARILLO, TEXAS 79118  
TEL (806) 353-6123 FAX (806) 353-4132

## SECTION 3 WASTE HANDLING AND STORAGE

### 3.1 Summary of Facility Operation

Delta Egg Farm is an existing facility that consists of 12 high-rise laying hen houses, an egg packing plant, and 3 high-rise pullet houses located approximately ¼-mile south of the hen houses. Egg wash water from the egg packing plant is directed to a lift station near the plant, which pumps process water into an existing earthen lagoon. All manure from the production houses is handled in a dry form – no manure is sent to the lagoon. The hen houses and pullet houses and their associated manure storages are completely enclosed. Manure collects in the lower portion of the high-rise structures until it is removed periodically and transported off-site for beneficial use. A portion of the manure produced in the barns is used to compost mortalities in an on-site composting facility, located north of the layer barns. Runoff from the compost facility is contained within a bermed area. The following table is a summary of the waste handling and storage structures at the facility.

| Storage ID      | Type of Storage                         | Capacity    | Storage Period (days) | NRCS Practice Codes  |
|-----------------|---|-------------|-----------------------|--|
| Layer Houses    | High-Rise pit and/or Manure belt system | 41,200 tons | 353                   | 313 Waste Storage Facility<br>634 Waste Transfer   |
| Pullet Houses   | High-Rise pit                           | 3,600 tons  | 105                   | 313 Waste Storage Facility<br>634 Waste Transfer   |
| Composting Area | Bermed earthen pad                      | 11,200 tons | 2271                  | 316 Animal Mortality Facility<br>317 Composting Facility<br>633 Waste Recycling<br>634 Waste Transfer<br>362 Diversion |
| Egg Wash Lagoon | Evaporation lagoon                      | 6.07 ac-ft  | Total Evaporation     | 533 Pumping Plant<br>359 Waste Treatment Lagoon<br>521 Pond Lining<br>634 Waste Transfer                               |

*Revised 8/15/17*

#### 3.1.1 Construction/Modifications

Layer Houses 1-5 have been remodeled to comply with changes to animal spacing requirements. The remodeled layer houses utilize a manure belt system equipped with drying equipment. Each remodeled layer house has a 112' x 56' manure storage structure on one end to ensure adequate enclosed manure storage capacity is available.

Two new vehicle disinfection stations have been constructed at the site to comply with enhanced biosecurity protocols necessary to control the spread of avian influenza. These locations are depicted on the Site Map. One station has been constructed near the Layer Houses and one near the Pullet Houses. Water use is extremely low, at approximately 180 gallons per month, and effluent from both stations will be collected periodically and disposed of in the egg wash pond per UDEQ approval.

*Revised 8/15/17*



### **3.2 Storage of Manure and Process Wastewater**

The CAFO has adequate storage for manure, compost and process wastewater, based on the requirements of the NMP and CAFO rules. The flocks at this facility have been downsized in recent years from the original design capacity and permit in order to comply with California poultry production standards; thus, the remodeling of existing layer houses will not exceed the original design capacity of the existing waste and wastewater handling facilities. Available original design information is included as an attachment to this section; however, updated calculations are attached to further demonstrate the adequacy of the structures. Since these changes will not exceed the original design capacity of the egg wash lagoon and all manure is handled dry, additional technical evaluation required for new source poultry (AWM, SPAW, etc.) is not necessary in this case.

*Revised 8/15/17*

#### **3.2.1 Manure Production**

Table 3.2.1, Estimated Manure Production for a Poultry Facility, is included as a summary of the estimated annual manure and nutrient production for the facility, calculated using USDA-NRCS Agricultural Waste Management Field Handbook, March 2008. All manure, including the portion used for composting, is hauled off-site.

#### **3.2.2 Process Generated Wastewater**

Process generated wastewater from wash water used in the egg packing plant is directed to a lift station and then into the Egg Wash Lagoon for anaerobic treatment, storage and evaporation. The volume of wastewater generated daily ranges from 3,000 to 4,000 gallons, based on facility records. Design information for the lift station is included at the end of this section, along with original design documents indicating the original design flow was 5,900-6,000 gallons per day. There is no increase in process generated wastewater.

#### **3.2.3 25-Year, 24-Hour Rainfall & Normal Rainfall**

The design rainfall volume is calculated using curve numbers (CN) applied with a 25-year, 24-hour storm for the existing facilities. The 25-year, 24-hour storm event for this location is 1.63 inches of rainfall, as obtained from NOAA Atlas 14 for Delta, UT. The Egg Wash Lagoon is designed to contain only the rain that falls on the lagoon surface (CN 100); all other storm water is diverted away (see Table 3.2.2).

Based on the size of the Compost Area and the minimum berm height, the existing containment berms are more than adequate to contain runoff from the 25-year, 24-hour rainfall event within the Compost Area. Containment volume calculations are included in Table 3.2.3.

Due to the high evaporation rates in this area, the normal precipitation less evaporation volume allocation is not applicable to either the lagoon or the Compost Area containment berms, as evaporation exceeds rainfall.

#### **3.2.4 Sludge and Sediment Accumulation**

Data from similar egg wash facilities owned by Cal-Maine shows an average sludge accumulation rate of 0.085 cubic feet of sludge per lb Total Solids. A 5-year sludge accumulation volume is included in the Egg Wash Lagoon (see Table 3.2.2).

The runoff sediment volume from the Compost Area is estimated using a procedure from the USDA Agricultural Waste Field Handbook, Kansas, Part 651.1083, using an estimated solids content of 1.5% in the runoff. Sediment that accumulates against the containment berm, if any, will be removed periodically to ensure adequate capacity is maintained.

### **3.2.5 Minimum Treatment Volume**

The minimum treatment volume in the Egg Wash Lagoon is determined by estimating the volatile solids concentration of the process water inflow, using data from similar facilities, and a design loading rate obtained from ASABE Standards (ASABE EP403.4 Feb. 2011) of 4.0 pounds of volatile solids per 1,000 cubic feet of storage (see Table 3.2.2). Due to the high evaporation rates in the region, it is necessary to periodically add non-process water to the lagoon to maintain a minimum water level.

### **3.2.6 Water Balance Model**

A Total Evaporation Water Balance Model was developed for the Egg Wash Lagoon to demonstrate that all inflows, including direct rainfall and process generated wastewater, will be contained and evaporated over time without discharge. Model output is presented in Table 3.2.4. The models show freeboard will be maintained through natural evaporation, as specified in the Utah CAFO Permit Part VII.G.3.

## **3.3 Clean Water Diversion**

The facility will ensure that clean water is diverted (NRCS Practice Code 362), as appropriate, from the production area, compost area and treatment/storage structures. All un-contaminated stormwater is diverted away from the production barns and the Egg Wash Lagoon by design or natural topography. A berm surrounding the Compost Area prevents run-on from entering the Compost Area.

## **3.4 Mortality Management**

### **3.4.1 Routine Mortalities**

Animal mortality will be encountered as part of normal facility operation, both through loss of individual birds, and at the end of the useful lifespan of a flock. Mortalities must be disposed in accordance with all applicable requirements as set forth by the Utah Department of Agriculture and Food and applicable state laws. The mortality disposal methods used include:

- On-site composting in accordance with USDA-NRCS Conservation Practice Code 316, Animal Mortality Facility and Code 317, Composting Facility.
- Off-site rendering or other proper off-site disposal.

On-site composting is conducted on a bermed earthen pad located north of the Layer Houses. Normal annual mortalities (approximately 4.2% of layers and 4.0% of pullets) and approximately 20% of spent flocks are routinely composted using a ratio of approximately 1 part straw: 40 parts manure: 10.5 parts mortality, in windrows using a mechanical windrowing machine. Normal daily mortalities are composted whole, ensuring adequate cover to prevent carcasses being exposed to the atmosphere. Spent hen carcasses are ground up prior to composting to ensure even distribution in the compost mixture. Moisture is added to the windrows using a water tank truck as needed to

ensure proper internal windrow temperatures are achieved. Finished compost is transferred off-site for beneficial use.

The normal mortality rate is based on the poultry industry's daily average for each type of bird on the facility applied to the maximum capacity is shown in Table 3.4.1 – Volume and Characteristics of Mortality:

**Table 3.4.1: Volume and Characteristics of Mortality**

| <b>Type/<br/>Mortality Rate</b>             | <b>Layers<br/>(4.2%)</b> | <b>Pullets<br/>(4.0%)</b> | <b>Totals</b> |
|---|--------------------------|---------------------------|---------------|
| <b>Avg Weight (lb/bird)</b>                 | 4.0                      | 1.5                       |               |
| <b>Total Birds</b>                          | 1,229,374                | 360,000                   | 1,589,374     |
| <b>Estimated Mortality<br/>(tons/year)*</b> | 103.3                    | 10.8                      | 114.1         |

\* Not including spent flocks

*Revised 8/15/17*

### **3.4.2 Catastrophic Mortalities**

Catastrophic loss of animals is rare, but could occur due to natural disasters, such as extreme weather, or disease outbreak. Disposal of a large number of mortalities will require coordination between the facility owners, and local and state animal health officials. Should a catastrophic die-off event occur, the Utah Department of Agriculture and Food and the UDEQ will be notified and efforts coordinated between these agencies to address the event. Disposal of catastrophic mortalities may include multiple mortality management practices, including composting, off-site rendering, or other acceptable alternative deemed necessary in coordination with regulatory agencies. All applicable NRCS guidance, and local, state and federal rules will be followed in the event of a catastrophic mortality event. It is expected that on-site composting, as described above, will be the primary method of mortality handling for a catastrophic event at this facility.

### **3.5 Prevention of Direct Contact of Animals with Waters of the United States**

Animals confined at the CAFO shall not be allowed to come into direct contact with waters of the United States. The poultry at Delta Egg Farm are housed in total confinement barns and are not allowed to roam free.

**ESTIMATED MANURE PRODUCTION**  
**for a POULTRY FACILITY**  
**Table 3.2.1**  
**ENVIRO-AG ENGINEERING, INC.**

NAME OF CAFO: Cal-Maine Foods  
LOCATION: Delta Egg Farm  
DATE: October-15

| MANURE PRODUCTION CRITERIA                    |           |         |           |
|---|-----------|---------|-----------|
| FACILITY TOTAL                                | Layers    | Pullets | Total     |
| 1. Number of Animals (head):                  | 1,229,374 | 360,000 | 1,589,374 |
| 2. Average Live weight per head, lbs.         | 4.0       | 1.5     | n/a       |
| 3. Total Liveweight, lbs.                     | 4,917,496 | 540,000 | 5,457,496 |
| 4. Confinement period, hrs/hd/day             | 24        | 24      | 24        |
| 5. Percent of time in Confinement Area        | 100.0%    | 100.0%  | 100%      |
| 6. Adjusted Total Liveweight, lbs.            | 4,917,496 | 540,000 | 5,457,496 |
| 7. Wet Manure Production, lbs/day (a)         | 233,581   | 68,400  | 301,981   |
| 8. Dry Manure Production, lbs/day (a)         | 60,239    | 17,640  | 77,879    |
| 9. Dry Manure Production, tons/year           | 10,994    | 3,219   | 14,213    |
| 10. Volatile Solids Production, lbs/day (a)   | 44,257    | 12,960  | 57,217    |
| 11. Total Nitrogen Production, lbs/day (a, c) | 4,303     | 1,260   | 5,563     |
| 12. Total Phosphorus, P2O5 lbs/day (a, b, c)  | 3,097     | 907     | 4,004     |
| 13. Total Potassium, K2O lbs/day (a, b, c)    | 1,918     | 562     | 2,479     |

NOTES:

- (a) - Manure and nutrient production values are taken from NRCS Animal Field Waste Handbook, 210-VI-AWMFH, March 2008.
- (b) - The Manure Production and Characteristics Tables give P and K in the elemental forms. Convert to P2O5 by multiplying by 2.29 and to K2O by multiplying by 1.2.
- (c) - Book value nutrient estimates only. Site-specific nutrient analysis will be provided to recipients.

## VOLUME ALLOCATIONS for EGG WASH LAGOON

Table 3.2.2

ENVIRO-AG ENGINEERING, INC.

|               |                       |
|---------------|-----------------------|
| NAME OF CAFO: | Cal-Maine Foods, Inc. |
| LOCATION:     | Delta Egg Farm        |
| DATE:         | October-15            |

### MINIMUM TREATMENT VOLUME

|   |              |       |
|---|--------------|-------|
| Average Egg Wash Inflow VS concentration (a): | (lb/1000gal) | 23.39 |
| Volatile Solids Produced (a):                 | (lb/day)     | 93.6  |
| Design Loading Rate (lbVS/1000cuft-day) (b):  |              | 4     |
| Treatment Volume:                             | (ac-ft)      | 0.537 |

### SLUDGE VOLUME

|   |              |       |
|---|--------------|-------|
| Average Egg Wash Inflow TS concentration (a): | (lb/1000gal) | 31.19 |
| Total Solids Produced (a):                    | (lb/day)     | 124.8 |
| Sludge Accumulation Rate (b):                 | (cuft/lbTS)  | 0.085 |
| Sludge Accumulation Period:                   | (years)      | 5     |
| Sludge Volume:                                | (ac-ft)      | 0.445 |

### PROCESS GENERATED WASTE/WASTEWATER

|                 |           |       |
|-----------------|-----------|-------|
| Total Flow (c): | (gal/day) | 4,000 |
|-----------------|-----------|-------|

### RAINFALL VOLUME

|  |          |      |
|--|----------|------|
| Lagoon Surface Area (d):                       | (acres)  | 1.12 |
| 25-year, 24-hour rainfall (e):                 | (inches) | 1.63 |
| Curve Number:                                  |          | 100  |
| Rainfall Depth:                                | (inches) | 1.63 |
| Design Rainfall Volume:                        | (ac-ft)  | 0.15 |
| Average Monthly Rainfall less Evaporation (f): | (ac-ft)  | n/a  |

|                                |                |             |
|--------------------------------|----------------|-------------|
| <b>1999 Design Volume (d):</b> | <b>(ac-ft)</b> | <b>6.07</b> |
|--------------------------------|----------------|-------------|

#### NOTES:

- a) VS and TS production estimated from similar Cal-Maine facilities.
- b) Sludge accumulation data from a similar egg wash lagoon.
- c) From farm data. Includes minor monthly inflow from disinfection stations.
- d) From wastewater system O&M Manual, 1999, less 1' freeboard.
- e) NOAA Atlas 14, Delta, UT
- f) Evaporation exceeds rainfall. Refer to Water Balance Model.

## COMPOST AREA CONTAINMENT VOLUME

Table 3.2.3  
ENVIRO-AG ENGINEERING, INC.

### CONTAINMENT VOLUME - Compost Area

|                                |          |       |
|--------------------------------|----------|-------|
| Compost Area:                  | (acres)  | 26.40 |
| 25-year, 24-hour rainfall (a): | (inches) | 1.63  |
| Curve Number:                  |          | 95    |
| Runoff Depth:                  | (inches) | 1.13  |
| Design Rainfall Volume:        | (ac-ft)  | 2.49  |
| Runoff Sediment Volume (b):    | (ac-ft)  | 0.03  |
| Total Required Containment:    | (ac-ft)  | 2.53  |

Estimated Existing Volume\*: (ac-ft) 26.40

\*Minimum 2-ft high berm (1 ft working depth plus  
1 ft freeboard) Berm height varies from 2 ft to 4 ft,  
so actual capacity is greater than shown.

#### NOTES:

a) NOAA Atlas 14, Delta, UT

b) USDA Agricultural Field Waste Handbook, Kansas, Part  
651.1083, Suggested procedures for sediment volume estimation.

**TOTAL EVAPORATION  
5-YEAR WATER BALANCE MODEL  
EGG WASH LAGOON Table 3.2.4**

ENVIRO-AG ENGINEERING, INC.

**CAFO DATA:**

NAME OF CAFO: Cal-Maine Foods, Inc.  
LOCATION: Delta Egg Farm  
DATE: October-15

**EVAPORATION POND DATA:**

A. Primary SA (ac): 0.00  
B. Secondary SA (ac): 1.12  
C. Total SA (ac): 1.12

Delta Station, Average Rainfall, 1938-2014

**Total Storage Avail. Less 1' Freeboard (ac-ft): 6.07**  
Reserved 25-yr, 24-hr storage (ac-ft): 0.15  
Total Storage - Reserved Cap. (ac-ft): 5.92  
Maximum Capacity at the Top of Berm (ac-ft) 7.16

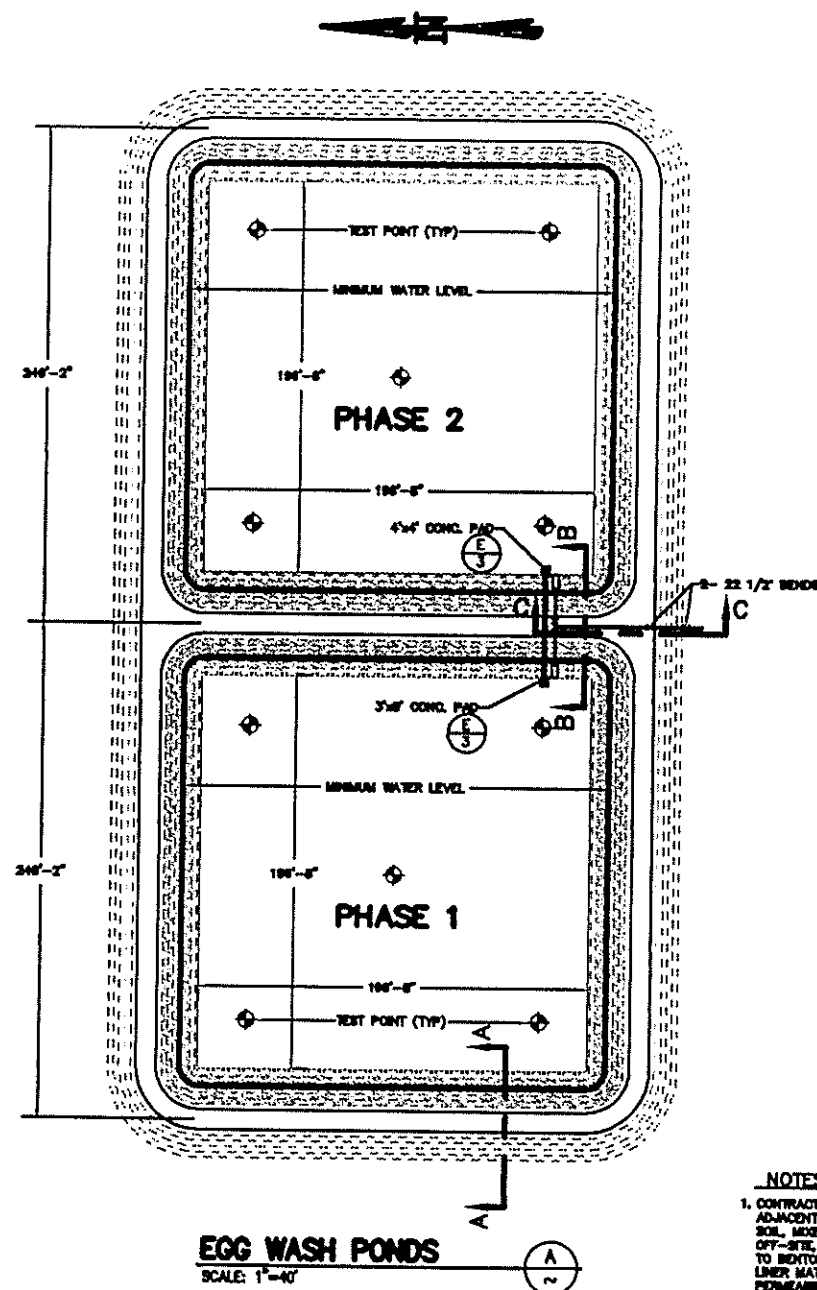
|        | MONTH | 1<br>Monthly<br>Precip<br>(in) | 2<br>Pond area<br>Contrib<br>(ac-ft) | 3<br>Process<br>Inflow<br>(ac-ft) | 4<br>Total<br>Inflow<br>(ac-ft) | 5<br>Monthly<br>Evap<br>(in) | 6<br>Net Pond<br>Evap<br>(ac-ft) | 7<br>Monthly Net<br>Pond Accum<br>(ac-ft) | 8<br>Accum Storage<br>at E.O.M.<br>(ac-ft) | 9<br>Water Surface Area<br>at EOM<br>(ac) | Encroach<br>25/24 vol<br>(ac-ft) |
|--------|-------|--------------------------------|--------------------------------------|-----------------------------------|---------------------------------|------------------------------|----------------------------------|---|--|---|----------------------------------|
| YEAR 1 | JAN   | 0.54                           | 0.05                                 | 0.38                              | 0.43                            | 1.69                         | 0.11                             | (start value)-> 0.33                      | 1.08                                       | 0.75                                      | 0.00                             |
|        | FEB   | 0.59                           | 0.06                                 | 0.34                              | 0.40                            | 1.69                         | 0.11                             | 0.29                                      | 1.37                                       | 0.78                                      | 0.00                             |
|        | MAR   | 0.78                           | 0.07                                 | 0.38                              | 0.45                            | 1.69                         | 0.11                             | 0.34                                      | 1.71                                       | 0.80                                      | 0.00                             |
|        | APR   | 0.81                           | 0.08                                 | 0.37                              | 0.44                            | 1.69                         | 0.11                             | 0.33                                      | 2.04                                       | 0.82                                      | 0.00                             |
|        | MAY   | 0.83                           | 0.08                                 | 0.38                              | 0.46                            | 7.16                         | 0.49                             | -0.03                                     | 2.01                                       | 0.82                                      | 0.00                             |
|        | JUN   | 0.48                           | 0.05                                 | 0.37                              | 0.41                            | 8.34                         | 0.57                             | -0.16                                     | 1.85                                       | 0.81                                      | 0.00                             |
|        | JUL   | 0.37                           | 0.03                                 | 0.38                              | 0.42                            | 8.90                         | 0.60                             | -0.19                                     | 1.66                                       | 0.80                                      | 0.00                             |
|        | AUG   | 0.54                           | 0.05                                 | 0.38                              | 0.43                            | 7.16                         | 0.48                             | -0.05                                     | 1.62                                       | 0.80                                      | 0.00                             |
|        | SEP   | 0.65                           | 0.06                                 | 0.37                              | 0.43                            | 5.49                         | 0.37                             | 0.06                                      | 1.68                                       | 0.80                                      | 0.00                             |
|        | OCT   | 0.84                           | 0.08                                 | 0.38                              | 0.46                            | 3.54                         | 0.24                             | 0.22                                      | 1.90                                       | 0.82                                      | 0.00                             |
|        | NOV   | 0.56                           | 0.05                                 | 0.37                              | 0.42                            | 1.69                         | 0.11                             | 0.31                                      | 2.21                                       | 0.83                                      | 0.00                             |
|        | DEC   | 0.60                           | 0.06                                 | 0.38                              | 0.44                            | 1.69                         | 0.12                             | 0.32                                      | 2.53                                       | 0.85                                      | 0.00                             |
| YEAR 2 | JAN   | 0.54                           | 0.05                                 | 0.38                              | 0.43                            | 1.69                         | 0.12                             | 0.31                                      | 2.84                                       | 0.87                                      | 0.00                             |
|        | FEB   | 0.59                           | 0.06                                 | 0.34                              | 0.40                            | 1.69                         | 0.12                             | 0.28                                      | 3.11                                       | 0.89                                      | 0.00                             |
|        | MAR   | 0.78                           | 0.07                                 | 0.38                              | 0.45                            | 1.69                         | 0.12                             | 0.33                                      | 3.44                                       | 0.91                                      | 0.00                             |
|        | APR   | 0.81                           | 0.08                                 | 0.37                              | 0.44                            | 1.69                         | 0.13                             | 0.32                                      | 3.76                                       | 0.92                                      | 0.00                             |
|        | MAY   | 0.83                           | 0.08                                 | 0.38                              | 0.46                            | 7.16                         | 0.55                             | -0.09                                     | 3.66                                       | 0.92                                      | 0.00                             |
|        | JUN   | 0.48                           | 0.05                                 | 0.37                              | 0.41                            | 8.34                         | 0.64                             | -0.23                                     | 3.44                                       | 0.91                                      | 0.00                             |
|        | JUL   | 0.37                           | 0.03                                 | 0.38                              | 0.42                            | 8.90                         | 0.67                             | -0.26                                     | 3.18                                       | 0.89                                      | 0.00                             |
|        | AUG   | 0.54                           | 0.05                                 | 0.38                              | 0.43                            | 7.16                         | 0.53                             | -0.10                                     | 3.08                                       | 0.88                                      | 0.00                             |
|        | SEP   | 0.65                           | 0.06                                 | 0.37                              | 0.43                            | 5.49                         | 0.40                             | 0.02                                      | 3.11                                       | 0.89                                      | 0.00                             |
|        | OCT   | 0.84                           | 0.08                                 | 0.38                              | 0.46                            | 3.54                         | 0.26                             | 0.20                                      | 3.30                                       | 0.90                                      | 0.00                             |
|        | NOV   | 0.56                           | 0.05                                 | 0.37                              | 0.42                            | 1.69                         | 0.13                             | 0.29                                      | 3.60                                       | 0.92                                      | 0.00                             |
|        | DEC   | 0.60                           | 0.06                                 | 0.38                              | 0.44                            | 1.69                         | 0.13                             | 0.31                                      | 3.90                                       | 0.93                                      | 0.00                             |
| YEAR 3 | JAN   | 0.54                           | 0.05                                 | 0.38                              | 0.43                            | 1.69                         | 0.13                             | 0.30                                      | 4.20                                       | 0.95                                      | 0.00                             |
|        | FEB   | 0.59                           | 0.06                                 | 0.34                              | 0.40                            | 1.69                         | 0.13                             | 0.26                                      | 4.47                                       | 0.97                                      | 0.00                             |
|        | MAR   | 0.78                           | 0.07                                 | 0.38                              | 0.45                            | 1.69                         | 0.14                             | 0.32                                      | 4.79                                       | 0.98                                      | 0.00                             |
|        | APR   | 0.81                           | 0.08                                 | 0.37                              | 0.44                            | 1.69                         | 0.14                             | 0.31                                      | 5.09                                       | 1.00                                      | 0.00                             |
|        | MAY   | 0.83                           | 0.08                                 | 0.38                              | 0.46                            | 7.16                         | 0.60                             | -0.14                                     | 4.95                                       | 0.99                                      | 0.00                             |
|        | JUN   | 0.48                           | 0.05                                 | 0.37                              | 0.41                            | 8.34                         | 0.69                             | -0.28                                     | 4.67                                       | 0.98                                      | 0.00                             |
|        | JUL   | 0.37                           | 0.03                                 | 0.38                              | 0.42                            | 8.90                         | 0.73                             | -0.31                                     | 4.36                                       | 0.96                                      | 0.00                             |
|        | AUG   | 0.54                           | 0.05                                 | 0.38                              | 0.43                            | 7.16                         | 0.57                             | -0.14                                     | 4.22                                       | 0.95                                      | 0.00                             |
|        | SEP   | 0.65                           | 0.06                                 | 0.37                              | 0.43                            | 5.49                         | 0.44                             | -0.01                                     | 4.22                                       | 0.95                                      | 0.00                             |
|        | OCT   | 0.84                           | 0.08                                 | 0.38                              | 0.46                            | 3.54                         | 0.28                             | 0.18                                      | 4.39                                       | 0.96                                      | 0.00                             |
|        | NOV   | 0.56                           | 0.05                                 | 0.37                              | 0.42                            | 1.69                         | 0.14                             | 0.28                                      | 4.68                                       | 0.98                                      | 0.00                             |
|        | DEC   | 0.60                           | 0.06                                 | 0.38                              | 0.44                            | 1.69                         | 0.14                             | 0.30                                      | 4.98                                       | 1.00                                      | 0.00                             |
| YEAR 4 | JAN   | 0.54                           | 0.05                                 | 0.38                              | 0.43                            | 1.69                         | 0.14                             | 0.29                                      | 5.27                                       | 1.01                                      | 0.00                             |
|        | FEB   | 0.59                           | 0.06                                 | 0.34                              | 0.40                            | 1.69                         | 0.14                             | 0.26                                      | 5.52                                       | 1.03                                      | 0.00                             |
|        | MAR   | 0.78                           | 0.07                                 | 0.38                              | 0.45                            | 1.69                         | 0.14                             | 0.31                                      | 5.83                                       | 1.05                                      | 0.00                             |
|        | APR   | 0.81                           | 0.08                                 | 0.37                              | 0.44                            | 1.69                         | 0.15                             | 0.30                                      | 6.13                                       | 1.06                                      | 0.21                             |
|        | MAY   | 0.83                           | 0.08                                 | 0.38                              | 0.46                            | 7.16                         | 0.63                             | -0.18                                     | 5.95                                       | 1.05                                      | 0.04                             |
|        | JUN   | 0.48                           | 0.05                                 | 0.37                              | 0.41                            | 8.34                         | 0.73                             | -0.32                                     | 5.63                                       | 1.03                                      | 0.00                             |
|        | JUL   | 0.37                           | 0.03                                 | 0.38                              | 0.42                            | 8.90                         | 0.77                             | -0.35                                     | 5.28                                       | 1.01                                      | 0.00                             |
|        | AUG   | 0.54                           | 0.05                                 | 0.38                              | 0.43                            | 7.16                         | 0.60                             | -0.17                                     | 5.11                                       | 1.00                                      | 0.00                             |
|        | SEP   | 0.65                           | 0.06                                 | 0.37                              | 0.43                            | 5.49                         | 0.46                             | -0.03                                     | 5.08                                       | 1.00                                      | 0.00                             |
|        | OCT   | 0.84                           | 0.08                                 | 0.38                              | 0.46                            | 3.54                         | 0.30                             | 0.16                                      | 5.24                                       | 1.01                                      | 0.00                             |
|        | NOV   | 0.56                           | 0.05                                 | 0.37                              | 0.42                            | 1.69                         | 0.14                             | 0.28                                      | 5.52                                       | 1.03                                      | 0.00                             |
|        | DEC   | 0.60                           | 0.06                                 | 0.38                              | 0.44                            | 1.69                         | 0.14                             | 0.29                                      | 5.81                                       | 1.05                                      | 0.00                             |
| YEAR 5 | JAN   | 0.54                           | 0.05                                 | 0.38                              | 0.43                            | 1.69                         | 0.15                             | 0.28                                      | 6.09                                       | 1.06                                      | 0.18                             |
|        | FEB   | 0.59                           | 0.06                                 | 0.34                              | 0.40                            | 1.69                         | 0.15                             | 0.25                                      | 6.34                                       | 1.08                                      | 0.43                             |
|        | MAR   | 0.78                           | 0.07                                 | 0.38                              | 0.45                            | 1.69                         | 0.15                             | 0.30                                      | 6.65                                       | 1.09                                      | 0.73                             |
|        | APR   | 0.81                           | 0.08                                 | 0.37                              | 0.44                            | 1.69                         | 0.15                             | 0.29                                      | 6.94                                       | 1.11                                      | 1.02                             |
|        | MAY   | 0.83                           | 0.08                                 | 0.38                              | 0.46                            | 7.16                         | 0.66                             | -0.20                                     | 6.73                                       | 1.10                                      | 0.81                             |
|        | JUN   | 0.48                           | 0.05                                 | 0.37                              | 0.41                            | 8.34                         | 0.76                             | -0.35                                     | 6.38                                       | 1.08                                      | 0.46                             |
|        | JUL   | 0.37                           | 0.03                                 | 0.38                              | 0.42                            | 8.90                         | 0.80                             | -0.38                                     | 6.00                                       | 1.06                                      | 0.08                             |
|        | AUG   | 0.54                           | 0.05                                 | 0.38                              | 0.43                            | 7.16                         | 0.63                             | -0.20                                     | 5.80                                       | 1.04                                      | 0.00                             |
|        | SEP   | 0.65                           | 0.06                                 | 0.37                              | 0.43                            | 5.49                         | 0.48                             | -0.05                                     | 5.75                                       | 1.04                                      | 0.00                             |
|        | OCT   | 0.84                           | 0.08                                 | 0.38                              | 0.46                            | 3.54                         | 0.31                             | 0.15                                      | 5.90                                       | 1.05                                      | 0.00                             |
|        | NOV   | 0.56                           | 0.05                                 | 0.37                              | 0.42                            | 1.69                         | 0.15                             | 0.27                                      | 6.17                                       | 1.07                                      | 0.25                             |
|        | DEC   | 0.60                           | 0.06                                 | 0.38                              | 0.44                            | 1.69                         | 0.15                             | 0.29                                      | 6.46                                       | 1.08                                      | 0.54                             |

**NOTES:**

- (1) Monthly precip data taken from Delta, UT Station, Average of 1938 through 2014, Utah Climate Center
- (2) Calculated by SCS Method using a CN of 100.
- (3) Calculated using daily process-generated wastewater and number of days per month.
- (4) Column 2 + Column 3
- (5) Monthly Evaporation (in) taken from Hill, Barker & Lewis. 2011, Appendix I, Delta Station
- (6) Net Pond Evap (ac-ft) = Free water surface evap \* estimated water surface area
- (7) Column 4 - Column 6
- (8) Previous Month Accumulated Storage (Col. 8) + Monthly Net Pond Accumulation (Column 7)
- (9) Encroachment occurs when net inflow plus previous month's storage encroaches upon the volume reserved for the design storm.  
Water may be pumped to provide moisture to composting operation as needed to maintain required freeboard.

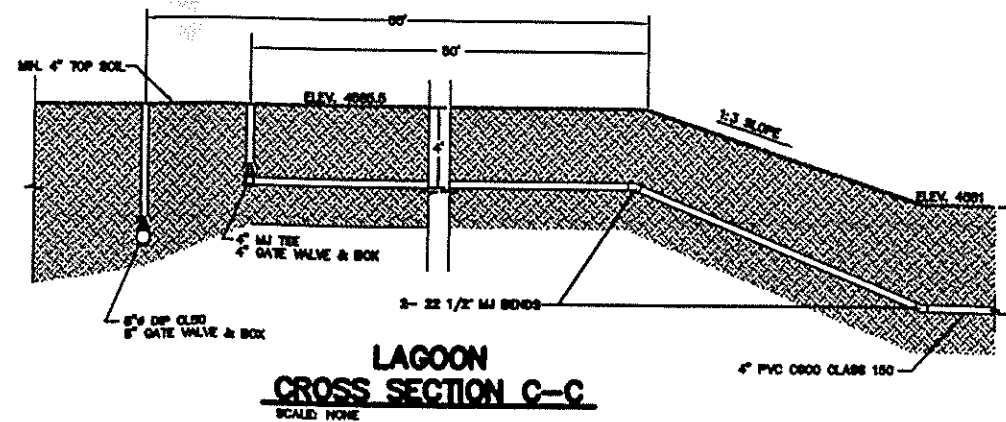
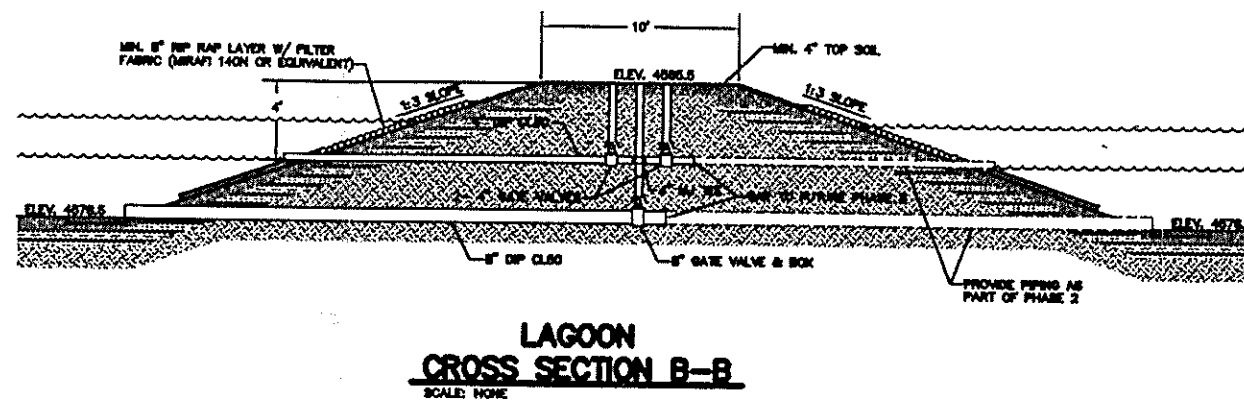
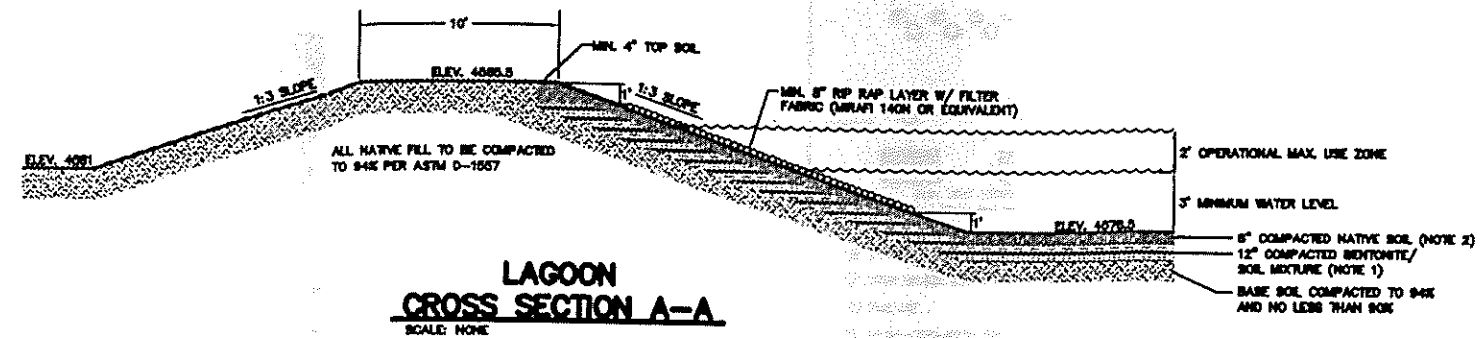


## **Certifications/Engineering Documentation**



#### NOTES:

1. CONTRACTOR TO CONSTRUCT TEST PAD (APPROX. 30' x 30') ADJACENT TO LAGOON SITE. TEST PAD SHALL USE NATIVE SOIL, MIXED WITH VARYING AMOUNTS OF BENTONITE FROM OFF-SITE, TO DETERMINE REQUIRED RATIO OF NATIVE SOIL TO BENTONITE TO ACHIEVE REQUIRED PERMEABILITIES OF LINER MATERIAL IN PLACE. NO IN-PLACE DENSITY / PERMEABILITY TESTS SHALL EXCEED  $1 \times 10^{-9}$  CM/SEC.
2. A 6" LAYER OF COMPACTED NATIVE SOIL SHALL BE PROVIDED TO PROTECT LINER. CONTRACTOR SHALL COMPACT THIS LAYER IN ACCORDANCE WITH GEOTECHNICAL CONSULTANT RECOMMENDATIONS.



| REV | BY | DATE | DESCRIPTION | REV | BY | DATE | DESCRIPTION |
|-----|----|------|-------------|-----|----|------|-------------|
|     |    |      |             |     |    |      |             |
|     |    |      |             |     |    |      |             |
|     |    |      |             |     |    |      |             |

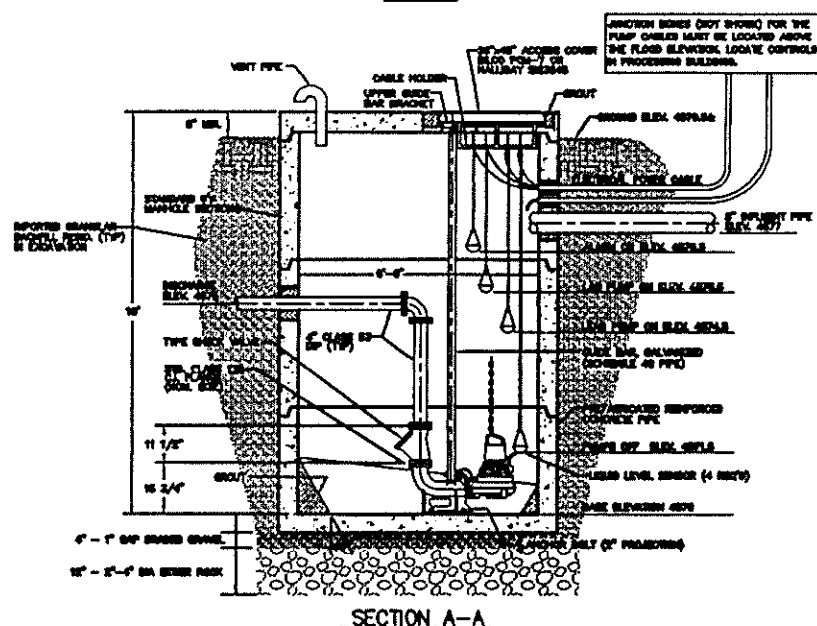
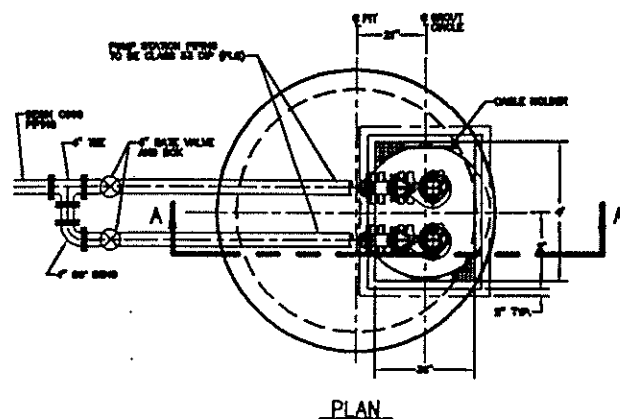
**CPS**  
CONSULTING ENGINEERS, INC.  
SALDUELL, RICHARDS, ROSENBERG

305 EAST 100 SOUTH, SUITE 340  
SALT LAKE CITY, UTAH 84111  
PHONE 801/333-0395  
FAX 801/333-0272

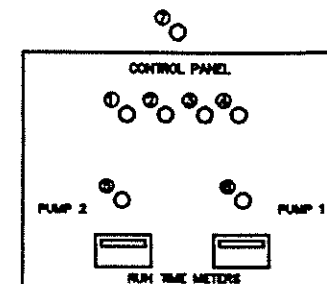
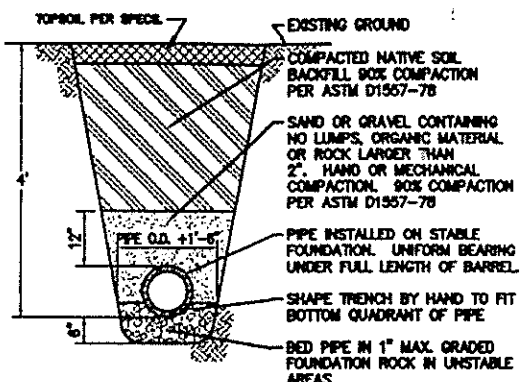
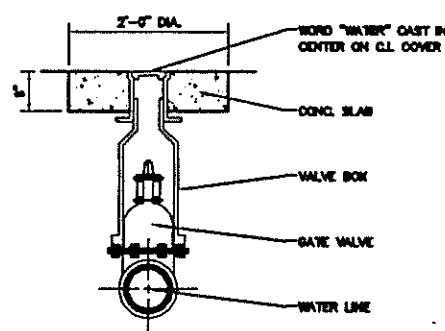
**LATCO-DELTA EGG FACILITY  
WASTEWATER LAGOON SYSTEM  
LAGOON DETAILS**

SHEET 2  
OF 3  
DRAWING NO.  
14196

- NOTES:
1. INDICATED INFORMATION TO BE DETERMINED BY OWNER.
  2. LOCATE AND/OR VALVE MARKS CLEARLY MARKED SIDE OF ACCESS FRAME AND CENTER LINE OF PIPE AS INDICATED. VALVE LOCATIONS MUST BE FIELD TO SHOWN EXACT POSITION OF PIPE RELATIVE TO ACCESS FRAME.
  3. GROUND OPENING FOR ACCESS FRAME.
  4. CONSTRUCTION AND DETAIL SHOWN ARE NOT RECOMMENDED ONLY. ALL DETAILS INCLUDING SIZES OF FIT, TYPE, LOCATION AND ARRANGEMENT OF VALVES AND PIPING, ETC. ARE TO BE SPECIFIED BY THE CONSULTING ENGINEER AND ARE SUBJECT TO HIS APPROVAL.

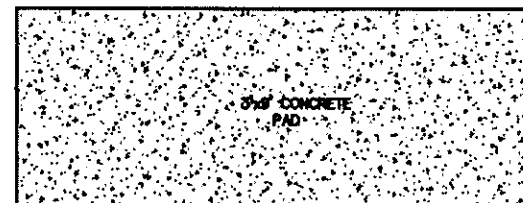
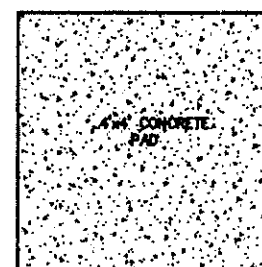


**SUMP & PUMP DETAIL** (B)  
SCALE: NONE



PUMP CHARACTERISTICS

|          |     |
|----------|-----|
| TDH MIN: | 20  |
| TDH MAX: | 32  |
| FLOW:    | 180 |
| HP:      | 2.4 |
| VOLTS:   | 230 |
| PHASE:   | 1   |



| REV | BY | DATE | DESCRIPTION | REV | BY | DATE | DESCRIPTION |
|-----|----|------|-------------|-----|----|------|-------------|
|     |    |      |             |     |    |      |             |
|     |    |      |             |     |    |      |             |
|     |    |      |             |     |    |      |             |

**CPS**  
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**LATCO-DELTA EGG FACILITY  
WASTEWATER LAGOON SYSTEM  
MISCELLANEOUS DETAILS**

|           |       |
|-----------|-------|
| SHEET     | 3     |
| OF        | 3     |
| DRWG. NO. | 14196 |

## SECTION 4 LAND TREATMENT

### 4.1 Conservation Practices

Site-specific conservation practices have been implemented in the production areas to protect natural resources. No land application of manure or wastewater is planned at this site, so no land application fields are included in this plan. Practices specific to waste management and mortality management were discussed in Section 3. Table 4.1 summarizes the additional practices that are in place or will be implemented:

**Table 4.1: Conservation Practices**

| <b><u>Production Areas:</u></b>                                      |   |
|--|---|
| <b>NRCS Practice Codes</b>   | <b>Description</b>  |
| 472 Access Control<br>382 Fence                                      | Access to production areas will be restricted with gates and fencing to comply with enhanced biosecurity measures.  |
| 373 Dust Control on Unpaved Roads and Surfaces                       | On-site facility drives will be watered as-needed for dust suppression.   |
| 592 Feed Management  | Animal feed rations are developed by a professional animal nutritionist to achieve the production goals of Cal-Maine while minimizing waste and excess nutrients.   |
| 561 Heavy Use Area Protection  | Areas of heavy vehicle traffic within the production area will be protected with surfacing materials and routine maintenance to prevent degradation of nearby resources.  |
| 614 Watering Facility  | Adequate fresh drinking water is supplied to all animal production barns.   |
| 382 Fence  | The Egg Wash Lagoon, or the production area itself should be fenced to prevent grazing wildlife entry to avoid damage to the clay liner.  |
| 595 Pest Management  | Pests within the production areas will be managed in accordance with applicable laws and regulations. All chemicals will be used according to the manufacturers recommendations and empty containers will be properly disposed.   |
| <b><u>Nutrient Management:</u></b>                                   |   |
| 590 Nutrient Management<br>633 Waste Recycling<br>634 Waste Transfer | <p>No on-site land application of wastewater, manure or compost is proposed for the term of the permit. Due to the high evaporation rates and low rainfall, the Egg Wash Lagoon is operated as a total evaporation system. Water is added periodically to maintain a minimum water level for treatment purposes.</p> <p>All manure and finished compost is transferred off-site for other beneficial uses. Representative samples of manure and compost are obtained at least annually to assess the nutrient content of the material and the results are supplied to off-site users.</p> |

## SECTION 5 OPERATION AND MAINTENANCE

### 5.1 Biosecurity

Enhanced biosecurity measures are being implemented at this facility in an effort to control the spread of avian influenza. Access to the facility will be controlled through biosecure entrance points and vehicle disinfection stations. Wash water from the disinfection stations will be periodically collected by a third party for proper off-site disposal. Disinfection products will be stored, handled and disposed in accordance with product recommendations and MSDS (SDS) documents will be maintained on-site. All vaccines and other veterinary medical supplies are stored in their original packaging until use. Used sharps are disposed in a properly labeled biosecurity container, and once full, the container is sealed and then transferred off-site to a proper disposal facility.

### 5.2 Production Area Best Management Practices (BMPs)

Delta Egg Farm has implemented the following BMPs in accordance with the Utah CAFO Permit Part VII.G. BMPs are summarized in the following table.

**Table 5.1: Production Area BMP Implementation**

| <b>BMP</b>  | <b>Units</b>  | <b>Frequency</b>                      |
|---|---------------|---------------------------------------|
| Visual inspection of all storm water run-on diversions, runoff diversion structures, waste storage structures and devices channeling process wastewater to impoundments or tanks.   | n/a           | Weekly – record using CAFOPro log     |
| Visual inspection of water lines, including drinking water and cooling water lines, conducted during normal operations.   | n/a           | Daily – record using CAFOPro log      |
| A depth markers, marked in 1-ft increments, has been installed in the Egg Wash Lagoon to allow for visual monitoring of water levels.   | ft            | Weekly – record using CAFOPro log     |
| Documentation of all corrective actions taken as the result of inspections.<br><br>Deficiencies not corrected <u>within 30 days</u> must be accompanied by an explanation of the factors preventing immediate correction.<br><br>Corrective action to restore sufficient volume to contain the 25-year, 24-hour storm event and/or to ensure structural integrity of the lagoon or pond will commence as soon as such deficiency is observed.     |               | As necessary                          |
| Accumulated solids in the Egg Wash Lagoon will be removed when the volume of solids reaches the design solids volume allocation. Removal may either be accomplished using mechanical means, if the structure is dry, or by agitating and pumping, if adequate wastewater is present. Removed solids may either be hauled immediately off-site for beneficial use, or may be stockpiled within the bermed Compost Area for drying/composting prior | ac-ft or tons | Estimated every 5 years or as needed. |

|  |     |                                    |
|--|-----|------------------------------------|
| to off-site transfer. Representative samples will be collected to assess the nutrient content of the material.   |     |                                    |
| The production area is not located within a 100-year flood plain.  | n/a | Refer to the Site Map              |
| There shall be no discharge of manure, composte, or process wastewater from the production area to groundwater with direct hydrologic connection to surface waters of the State. | n/a | The Egg Wash Lagoon is clay-lined. |

### 5.3 Recording of Results and Records Retention

The permittee utilizes CAFOPRO®, a secure web-based recordkeeping and NMP tracking system as an alternative to paper forms and records. All records and inspection logs required by the permit and NMP are available for review on-site either in electronic or paper form. Example logs from CAFOPRO® are included at the end of this section.

#### 5.3.1 Required Sampling and Analytical Requirements

Records of monitoring information shall include:

- place, date, and time of sampling;
- dates the analyses were performed;
- person(s) performing the analyses;
- analytical techniques, procedures or methods used; and
- results of such analyses.

#### 5.3.2 Records Retention

All records required by this NMP, including sample results, water level readings, manure/compost transfer records, mortality handling records, daily and weekly inspection records, and calibration and maintenance records, shall be retained by the permittee for a minimum of five (5) years and will be made available to DWQ personnel upon request, in accordance with Utah CAFO Permit Part XII. The following table lists the records required under Part XII and where/how these will be maintained:

| <b>Record type:</b>  | <b>Format:</b>                       |
|--|--------------------------------------|
| XII.C.1. Current copy of NMP   | Paper and electronic (this document) |
| C.2. Copy of NOI or other permit application   | Paper and electronic (this document) |
| C.3. Copies of annual reports  | Paper and electronic                 |
| C.4. Manure transfer records per XI.A.   | Electronic                           |
| C.5. Records needed to document implementation of IX.A., essential NMP requirements. | Paper and electronic                 |
| C.6. Records of mortality management   | Electronic                           |

| <b>Record type:</b>  | <b>Format:</b>                                 |
|--|--|
| C.7. Records of overflows or discharges to surface waters of the state with date, time and estimated volume                | Electronic                                     |
| C.8.a-c Land application records   | Not applicable (N/A) – no land application     |
| C.9. Methods and protocols used to sample and analyze soil, manure, litter, compost or process water                       | Paper and electronic (SOP document)            |
| C.10. Results of soil, manure, litter, compost or process wastewater monitoring  | Electronic                                     |
| C.11. Expected and actual crop yield records   | N/A – no land application                      |
| C.12. Records of daily water line inspection   | Electronic                                     |
| C.13. Description for the basis for determining application rates  | N/A – no land application                      |
| C.14. Calculations showing total N and P applied ...   | N/A – no land application                      |
| C.15. Methods used to apply manure, litter, compost and process wastewater   | N/A – no land application                      |
| C.16. Dates of manure application equipment inspections and calibrations.  | N/A – no land application                      |
| C.17. Weekly inspections of structures and impoundments  | Electronic                                     |
| C.18. Weekly freeboard readings  | Electronic                                     |
| C.19. Records documenting corrective actions.  | Electronic                                     |
| C.20. Records documenting the current design of any manure, litter, compost and process wastewater storage structures, ... | Paper and electronic (Section 3 this document) |

*Revised 8/15/17*

#### **5.4 Lagoon Operation & Maintenance**

The Egg Wash Lagoon is operated for total evaporation of wastewater. No land application is planned for the term of the permit. A depth marker is in place and will be observed weekly to document water levels. If needed to maintain freeboard, wastewater can be pumped into tank trucks and transferred off-site, or sprayed on the compost piles to provide moisture for composting. Due to high evaporation rates, water may also need to be added to the lagoon periodically to maintain minimum water levels. All wastewater transfers should be documented in CAFOPro®. Berms and



lagoon liners should be visually inspected weekly as required. Routine maintenance activities may include, but are not limited to, mowing of sideslopes, removal of woody vegetation, and baiting/filling rodent holes in sideslopes. The lift station that transfers process water from the Egg Plant to the Egg Wash Lagoon should also be inspected weekly to ensure proper function of pumps and piping. Corrective action, if any, should be undertaken as soon as possible and documented using CAFOPro®.

#### ***5.4.1 Liner Maintenance***

The lagoon itself, or the production area should be fenced to prevent access by grazing wildlife, and no woody vegetation should be allowed to grow within the clay liner. Should routine inspections reveal mechanical or structural damage to the lagoon liner, the liner must be inspected and the repairs certified by a licensed professional engineer as meeting requirements of the CAFO permit and NMP. Liner maintenance should be documented in CAFOPro®.

#### ***5.4.2 Lagoon Closure***

Should the facility cease operation (i.e., production barns de-populated) for more than 12 months, and the owner has no intention of resuming operation, UDEQ should be notified and the facility should be closed in accordance with NRCS Code 360 Waste Facility Closure. The permittee should continue to conduct required inspections, maintenance and recordkeeping, and maintain coverage under the Utah CAFO Permit until proper closure is complete.

### **5.5 Compost Area Operation & Maintenance**

The earthen diversion berm surrounding the Compost Area should be inspected weekly and maintained as needed to ensure runoff from the Compost Area is properly contained and run-on from upgradient areas is diverted away. The Compost Area itself should be inspected weekly and maintained as needed to ensure adequate surface drainage and to minimize standing water. Details regarding composting procedures are included in Section 3.

All inspections and corrective actions taken (if any) should be logged in CAFOPro® and maintained for a period of 5 years.

### **5.6 Off-site Manure Transfer**

All manure removed from the production barns and all finished compost will be transferred to off-site end users. No on-site application of solids is planned. All manure is stored in the enclosed barns until hauled out. Manure may be temporarily stored (less than 30 days) within the bermed Compost Area for staging during haul out. Records of all off-site manure transfers are maintained in CAFOPro®, and include, at a minimum, the date, name and address of the recipient and the amount of manure or compost transferred.

### **5.7 Reporting**

The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility that could significantly change the nature or increase the quantity of pollutants discharged. Specific notice is required for non-compliance, permit transfer and monitoring results.

### **5.7.1 Annual Report**

1. The CAFO annual report shall be submitted annually on or before April 1 for the previous calendar year.
2. The CAFO annual report must include the following information:
  - All manure, compost and process wastewater discharges from the production area and instances of noncompliance that have occurred in the previous 12 months, including date, time, and approximate volume
  - The number and type of animals, whether in open confinement or housed under roof (broilers, layers, other);
  - Estimated amount of total manure, compost and process wastewater generated by the CAFO in the previous 12 months (tons/gallons);
  - Estimated amount of total manure, compost and process wastewater transferred to other person by the CAFO in the previous 12 months (tons/gallons);
  - Total number of acres for land application covered by the nutrient management plan;
  - Total number of acres under control of the CAFO that were used for land application of manure, compost and process wastewater in the previous 12 months;
  - A statement indicating whether the current version of the CAFO's NMP was developed or approved by a certified nutrient management planner; and
  - The actual crop(s) planted and actual yield(s) for each field, the actual nitrogen and phosphorus content of the manure, compost, and process wastewater, the results of calculations conducted in accordance with 40 CFR 122.42 (e)(5)(i)(B) and (e)(5)(ii)(D), and the
  - amount of manure, compost, and process wastewater applied to each field during the previous 12 months; and, for any CAFO that implements a nutrient management plan that addresses rates of application in accordance with 40 CFR 122.42 (e)(5)(ii), the results of any soil testing for nitrogen and phosphorus taken during the preceding 12 months, the data used in calculations conducted in accordance with 40 CFR 122.42 (e)(5)(ii)(D), and the amount of any supplemental fertilizer applied during the previous 12 months.

## **CAFO Pro® Example Recordkeeping Logs**

**Daily Log for: 10/20/2015**

| High Temp.   | Low Temp.            | Rain                 | Snow                 | Sky Conditions |
|--|----------------------|----------------------|----------------------|----------------|
| <input type="text"/>   | <input type="text"/> | <input type="text"/> | <input type="text"/> | Clear          |
| <input type="checkbox"/> Water Line Inspected? 💧<br><i>Reference the SOP</i> |                      | <input type="text"/> |                      |                |
| <input type="submit" value="Submit"/>  |                      |                      |                      |                |

**Weekly Log for: 10/18/2015 - 10/24/2015****Week Number: 42**

1. Is the designated drainage area isolated?

☒ Yes ☐ No ☐ NA

2. Have the retention control structures been inspected for any damage to the liners and/or embankments?

☒ Yes ☐ No ☐ NA

3. Are all control structures functional and operating as designed?

☒ Yes ☐ No ☐ NA

4. Has the wastewater handling equipment been inspected and/or tested as appropriate?

☒ Yes ☐ No ☐ NA

5. Has the manure handling equipment been inspected and/or tested as appropriate?

☒ Yes ☐ No ☐ NA

6. Note any findings, deficiencies, repairs, or other pertinent information resulting from the weekly inspection.

---

Jacquelyn McPherson

Update

**Pond Marker Readings for: 10/20/2015**

|               | Pond Marker Reading (feet) | Comments | Max Level                             | Min Level |
|---------------|----------------------------|----------|---------------------------------------|-----------|
| Egg Wash Pond |                            |          | 8.00                                  | 0.00      |
| Evap Pond     |                            |          | 4.00                                  | 0.00      |
|               |                            |          | <input type="button" value="Submit"/> |           |

*\* Please enter a daily log for 10/20/2015 to see the pond marker readings on the calendar.*

**Monthly Log for: October 2015****1. Inspector**

Jacquelyn McPherson

**2. Mortality Management Inspected**

Yes

**3. Chemical Storage Inspected**

Yes

**4. Check all that apply:**☐ Rendering Company ☒ Composting ☐ Burial ☐ Incineration ☐ Other**5. Comments**





## Cal-Maine Delta Egg Farm

### + New Manure Haul-Off Event

Source: Compost 1 (11/25/2013)

Date Started:

Date Finished:

Tons:

Hauler: -- Select or Type New --

Purchaser: -- Select or Type New --

Destination:

-- Select or Type New --

### + Import from CSV

|  |  | DateStarted | DateFinished | Sample                   | Tons | Tons DM | Hauler | Recipient/Purchaser | Destination |
|--|--|-------------|--------------|--------------------------|------|---------|--------|---------------------|-------------|
| Year: 2015                                     |  |             |              |                          |      |         |        |                     |             |
| <a href="#">Edit</a><br><a href="#">Delete</a> |  | 3/27/2015   | 3/27/2015    | LC1-009<br>(11/25 /2013) | 24.7 | 19.8    |        |                     | Fillmore UT |
| <a href="#">Edit</a><br><a href="#">Delete</a> |  | 3/26/2015   | 3/26/2015    | LC1-009<br>(11/25 /2013) | 24.0 | 19.2    |        |                     | Fillmore UT |
| <a href="#">Edit</a><br><a href="#">Delete</a> |  | 3/26/2015   | 3/26/2015    | LC1-009<br>(11/25 /2013) | 24.5 | 19.6    |        |                     | Fillmore UT |
| <a href="#">Edit</a><br><a href="#">Delete</a> |  | 3/11/2015   | 3/11/2015    | LC1-009<br>(11/25 /2013) | 24.4 | 19.5    |        |                     | Fillmore UT |
| <a href="#">Edit</a><br><a href="#">Delete</a> |  | 3/10/2015   | 3/10/2015    | LC1-009<br>(11/25 /2013) | 25.1 | 20.1    |        |                     | Fillmore UT |
| <a href="#">Edit</a><br><a href="#">Delete</a> |  | 3/10/2015   | 3/10/2015    | LC1-009<br>(11/25 /2013) | 25.3 | 20.3    |        |                     | Fillmore UT |
| <a href="#">Edit</a><br><a href="#">Delete</a> |  | 3/9/2015    | 3/9/2015     | LC1-009<br>(11/25 /2013) | 26.7 | 21.4    |        |                     | Fillmore UT |

|  |  | DateStarted | DateFinished | Sample                      | Tons  | Tons<br>DM | Hauler | Recipient/Purchaser | Destination   |
|--|--|-------------|--------------|-----------------------------|-------|------------|--------|---------------------|---------------|
|  | <a href="#">Edit</a><br><a href="#">Delete</a> | 3/5/2015    | 3/5/2015     | LC1-009<br>(11/25<br>/2013) | 28.6  | 22.9       |        |                     | Fillmore UT   |
|  | <a href="#">Edit</a><br><a href="#">Delete</a> | 3/5/2015    | 3/5/2015     | LC1-009<br>(11/25<br>/2013) | 22.8  | 18.3       |        |                     | Fillmore UT   |
|  | <a href="#">Edit</a><br><a href="#">Delete</a> | 3/5/2015    | 3/5/2015     | LC1-009<br>(11/25<br>/2013) | 25.0  | 20.0       |        |                     | Fillmore UT   |
|  | <a href="#">Edit</a><br><a href="#">Delete</a> | 3/5/2015    | 3/5/2015     | LC1-009<br>(11/25<br>/2013) | 26.1  | 20.9       |        |                     | Fillmore UT   |
|  | <a href="#">Edit</a><br><a href="#">Delete</a> | 2/27/2015   | 2/27/2015    | LC2-009<br>(11/25<br>/2013) | 300.0 | 251.1      |        |                     | Sugarville UT |
|  | <a href="#">Edit</a><br><a href="#">Delete</a> | 2/27/2015   | 2/27/2015    | LC2-009<br>(11/25<br>/2013) | 24.0  | 20.0       |        |                     | Fillmore UT   |
|  | <a href="#">Edit</a><br><a href="#">Delete</a> | 2/26/2015   | 2/26/2015    | LC2-009<br>(11/25<br>/2013) | 26.5  | 22.1       |        |                     | Fillmore UT   |
|  | <a href="#">Edit</a><br><a href="#">Delete</a> | 2/24/2015   | 2/24/2015    | LC2-009<br>(11/25<br>/2013) | 24.3  | 20.3       |        |                     | Fillmore UT   |
|  | <a href="#">Edit</a><br><a href="#">Delete</a> | 2/19/2015   | 2/20/2015    | LC2-009<br>(11/25<br>/2013) | 745.5 | 624.0      |        |                     | Lyndyll UT    |
|  | <a href="#">Edit</a><br><a href="#">Delete</a> | 2/18/2015   | 2/18/2015    | LC2-009<br>(11/25<br>/2013) | 25.8  | 21.5       |        |                     | Fillmore UT   |
|  | <a href="#">Edit</a><br><a href="#">Delete</a> | 2/17/2015   | 2/17/2015    | LC2-009<br>(11/25<br>/2013) | 24.9  | 20.8       |        |                     | Fillmore UT   |
|  | <a href="#">Edit</a><br><a href="#">Delete</a> | 2/16/2015   | 2/16/2015    | LC2-009<br>(11/25<br>/2013) | 24.0  | 20.1       |        |                     | Fillmore UT   |
|  | <a href="#">Edit</a><br><a href="#">Delete</a> | 2/13/2015   | 2/13/2015    | LC2-009<br>(11/25<br>/2013) | 27.9  | 23.3       |        |                     | Fillmore UT   |
|  | <a href="#">Edit</a><br><a href="#">Delete</a> | 2/13/2015   | 2/13/2015    | LC2-009<br>(11/25<br>/2013) | 25.8  | 21.5       |        |                     | Fillmore UT   |
|  | <a href="#">Edit</a><br><a href="#">Delete</a> | 2/6/2015    | 2/6/2015     | LC2-009<br>(11/25<br>/2013) | 27.3  | 22.8       |        |                     | Fillmore UT   |
|  | <a href="#">Edit</a><br><a href="#">Delete</a> | 2/5/2015    | 2/5/2015     | LC2-009<br>(11/25<br>/2013) | 25.8  | 21.5       |        |                     | Fillmore UT   |

|  |  | DateStarted | DateFinished | Sample                      | Tons    | Tons<br>DM | Hauler | Recipient/Purchaser | Destination |
|--|--|-------------|--------------|-----------------------------|---------|------------|--------|---------------------|-------------|
|  | <a href="#">Edit</a><br><a href="#">Delete</a> | 2/2/2015    | 2/2/2015     | LC2-009<br>(11/25<br>/2013) | 19.7    | 16.5       | ██████ | ██████              | Fillmore UT |
|  | <a href="#">Edit</a><br><a href="#">Delete</a> | 1/30/2015   | 1/30/2015    | LC2-009<br>(11/25<br>/2013) | 26.9    | 22.5       | ██████ | ██████              | Fillmore UT |
|  | <a href="#">Edit</a><br><a href="#">Delete</a> | 1/27/2015   | 1/27/2015    | LC1-009<br>(11/25<br>/2013) | 29.0    | 23.2       | ██████ | ██████              | Fillmore UT |
|  | <a href="#">Edit</a><br><a href="#">Delete</a> | 1/26/2015   | 1/26/2015    | LC1-009<br>(11/25<br>/2013) | 26.6    | 21.3       | ██████ | ██████              | Fillmore UT |
|  | <a href="#">Edit</a><br><a href="#">Delete</a> | 1/23/2015   | 1/23/2015    | LC1-009<br>(11/25<br>/2013) | 27.1    | 21.7       | ██████ | ██████              | Fillmore UT |
|  | <a href="#">Edit</a><br><a href="#">Delete</a> | 1/22/2015   | 1/22/2015    | LC1-009<br>(11/25<br>/2013) | 30.6    | 24.5       | ██████ | ██████              | Fillmore UT |
|  | <a href="#">Edit</a><br><a href="#">Delete</a> | 1/22/2015   | 1/22/2015    | LC1-009<br>(11/25<br>/2013) | 30.3    | 24.2       | ██████ | ██████              | Fillmore UT |
|  | <a href="#">Edit</a><br><a href="#">Delete</a> | 1/19/2015   | 1/19/2015    | LC1-009<br>(11/25<br>/2013) | 29.4    | 23.5       | ██████ | ██████              | Fillmore UT |
|  | <a href="#">Edit</a><br><a href="#">Delete</a> | 1/16/2015   | 1/16/2015    | LC1-009<br>(11/25<br>/2013) | 30.2    | 24.1       | ██████ | ██████              | Fillmore UT |
|  | <a href="#">Edit</a><br><a href="#">Delete</a> | 1/12/2015   | 1/12/2015    | LC1-009<br>(11/25<br>/2013) | 26.2    | 21.0       | ██████ | ██████              | Fillmore UT |
|  | <a href="#">Edit</a><br><a href="#">Delete</a> | 1/9/2015    | 1/9/2015     | LC1-009<br>(11/25<br>/2013) | 28.4    | 22.7       | ██████ | ██████              | Fillmore UT |
|  | <a href="#">Edit</a><br><a href="#">Delete</a> | 1/7/2015    | 1/7/2015     | LC1-009<br>(11/25<br>/2013) | 28.0    | 22.4       | ██████ | ██████              | Fillmore UT |
|  | <a href="#">Edit</a><br><a href="#">Delete</a> | 1/6/2015    | 1/6/2015     | LC1-009<br>(11/25<br>/2013) | 28.0    | 22.4       | ██████ | ██████              | Fillmore UT |
|  | <a href="#">Edit</a><br><a href="#">Delete</a> | 1/5/2015    | 1/5/2015     | LC1-009<br>(11/25<br>/2013) | 25.3    | 20.3       | ██████ | ██████              | Fillmore UT |
|  |  |             |              |                             | 1,964.7 | 1,621.3    |        |                     |             |
|  | Year: 2014                                     |             |              |                             |         |            |        |                     |             |
|  | Year: 2013                                     |             |              |                             |         |            |        |                     |             |
|  | Year: 2012                                     |             |              |                             |         |            |        |                     |             |

*Designed and powered by Enviro-Ag Engineering*

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*2015.10.13.2010*

## SECTION 6 SAMPLING & TESTING PROTOCOLS

### 6.1 Waste/Wastewater Sampling

Representative manure and compost samples will be collected and analyzed at least annually, and the results will be provided to manure and/or compost end users. Due to high evaporation rates, no land application of wastewater is planned for the term of this permit. Should land application become necessary, the NMP and permit will be revised and wastewater samples will be collected and analyzed, as required. Standard Operating Procedures (SOPs) were developed that provides guidelines for sampling of manure and wastewater. The SOPs are attached to Section 10 of the NMP. The facility shall analyze for the minimum parameters according with Table 7.1:

**Table 6.1: Waste Analysis Parameters**

| Parameter  | Units | Liquid<br>(Effluent) | Solids<br>(Manure & Compost) |
|--|-------|----------------------|------------------------------|
| Total N (TKN or N)                                     | %; lb | n/a                  | ✓                            |
| Ammonium Nitrogen (NH <sub>4</sub> -N)                 | %; lb | n/a                  | ✓                            |
| Nitrate-Nitrogen                                       | %; lb | n/a                  | ✓                            |
| Organic N  | %; lb | n/a                  | ✓                            |
| Total Phosphorus (P or P <sub>2</sub> O <sub>5</sub> ) | %; lb | n/a                  | ✓                            |
| Total Potassium (K or K <sub>2</sub> O)                | %; lb | n/a                  | ✓                            |
| Dry Matter or Moisture Content                         | %     | n/a                  | ✓                            |
| pH   | s.u.  | n/a                  |                              |

### 6.2 Soil Sampling and Analysis Procedures

No on-site land application is planned for the term of this permit. Should land application become necessary, the NMP and permit will be revised and soil samples will be collected and analyzed for nitrogen and phosphorus content, as required by the Utah CAFO Permit and NRCS Code 590 using USU Extension guidelines.

Sample results will be retained for a minimum of 5 years, either in paper or electronic form and will be made available as needed.

## SECTION 8 EMERGENCY SPILL AND DISCHARGE RESPONSE PLAN

### 8.1 Farm Safety

The following general farm safety guidelines should be followed:

- Maintain well-stocked first aid kits in prominent locations. First aid kits should be inspected regularly and re-stocked if necessary.
- Post the Emergency Contact Information page near the telephone in the office.
- Locate properly maintained fire extinguishers in prominent locations.
- Protective garments (gloves, rubber boots, etc.) should be made available to personnel handling manure and/or dead animals.
- Employees should be trained in procedures for handling on-site medical emergencies and operational emergencies.

### 8.2 Chemical and other Contaminant Handling

The CAFO takes precautions to ensure the proper handling and disposal of chemicals and other potential contaminants used on-site.

Applicable BMPs include:

- Chemicals are stored inside the Egg Processing Plant, poultry houses and maintenance areas.
- All chemicals are stored in the original containers until use.
- Empty containers are properly disposed of in accordance with manufacturer's recommendations; in compliance with local, state and federal regulations.
- Chemicals are stored so that no drains or other direct pathways that will allow spilled chemicals to exit the storage area.

### 8.3 Chemical Spills

Appropriate measures necessary to prevent spills and to cleanup spills of any chemicals or toxic pollutants shall be taken. All spills and clean-up activities must be documented and kept with the NMP.

#### 8.3.1 Spill Control Practices

The following practices will be followed for toxic spill prevention and cleanup:

- Manufacturers' recommended methods for spill cleanup will be clearly posted and site personnel will be made aware of the procedures and the location of the information and cleanup supplies.
- Materials and equipment necessary for spill cleanup will be kept in the material storage areas onsite. Equipment and materials will include but not be limited to brooms, dustpans, mops, rags, gloves, goggles, kitty litter, sand, sawdust, and plastic and metal trash containers specifically for this purpose. Spill kits are maintained in the following locations:
  - Egg Wash Plant
  - Storage Building
  - Truck Shop
- All spills will be cleaned up immediately after discovery.

- The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
- The CAFOPro® spill log will be completed to document the spill and corrective action taken.

#### **8.4 Emergency Action Plan**

This emergency action plan is intended to provide the necessary steps to take in the event that leaks, overflows, discharges or other spills occur at the facility. The plan includes an action plan to stop the release of waste/wastewater, assess the extent of the spill and damages, contact the appropriate agencies and implement procedures to prevent recurring events. Discharge sampling kits should be maintained on-site for use in the event of an emergency. The Discharge Reporting Form is included in CAFOPro®. All documentation of spills or wastewater discharges should be maintained on-site a minimum of 5 years. The Emergency Action Checklist at the end of this section should be used as a guide in the event of a spill or leak. An Emergency Contact list also is provided and should be posted in numerous locations around the facility for quick access.

#### **8.5 Other Discharges**

CAFOs have a duty to mitigate any environmental damage and clean up contamination to the extent possible. The operator shall prevent the discharge of pesticide contaminated waters into waters of the State. All wastes from pest and parasite control units, and other facilities utilized for the application of potentially hazardous or toxic chemicals shall be handled and disposed of in a manner such as to prevent any significant pollutants from entering the waters of the State. These materials shall be handled and disposed of in accordance with manufacturer's label directions.

#### **8.6 Petroleum Products**

Appropriate measures necessary to prevent spills and to cleanup spills of any petroleum products shall be taken. All spills and clean-up activities must be documented and kept with the NMP.

##### ***8.3.1 Petroleum Spill Control Practices***

The following practices will be followed for petroleum spill prevention and cleanup:

- Refer to the Spill Prevention, Control and Countermeasure (SPCC) Plan for cleanup and reporting requirements. The plan utilizes secondary containment. The SPCC plan is maintained in the training office conference room.
- Materials and equipment necessary for petroleum spill cleanup will be kept in the material storage areas onsite. Equipment and materials will include but not be limited to brooms, dustpans, mops, rags, gloves, goggles, kitty litter, sand, sawdust, and plastic and metal trash containers specifically for this purpose.
- Maintain secondary containment as a best management practice for areas where petroleum products are stored.

#### **8.7 Employee Training**

Personnel whose job responsibilities require handling and storage of manure or wastewater, petroleum products or other chemicals, will be trained to ensure proper procedures are followed and appropriate records are kept. Training will be conducted upon hiring and at least annually thereafter. Training topics should include, but are not limited to, handling and storage of manure,

wastewater, chemicals or petroleum products; spill response and notification procedures; sampling procedures; mortality management procedures; and recordkeeping. Records of employee training are maintained in CAFOPro®.



**Table 8.1: Emergency Action Checklist**

|   |   |
|---|---|
| Overflow/Discharge:   | <input type="checkbox"/> Document time and cause<br><input type="checkbox"/> Document source of discharge (photos)<br><input type="checkbox"/> When conditions are safe, sample the discharge for analysis<br><input type="checkbox"/> Notify the AFO/CAFO Program Coordinator within 24 hours<br><input type="checkbox"/> In the case of an immediate threat to the environment or human health, call the DEQ Hotline (801) 536-4123<br><input type="checkbox"/> Add soil to the top of berm to decrease volume discharged<br><input type="checkbox"/> Stop additional inflow to the impoundment<br><input type="checkbox"/> If possible, construct a temporary earthen berm/dike to contain the discharge and prevent it from reaching surface waters<br><input type="checkbox"/> Pump to prevent overflows |
| Leakage from Wastewater Transfer Systems:   | <input type="checkbox"/> Stop pumps and close valves to eliminate further discharges<br><input type="checkbox"/> Contain the discharge using temporary earthen berms, straw bales or other means.<br><input type="checkbox"/> Document time and cause of the leak<br><input type="checkbox"/> Repair leaks prior to restarting pumps  |
| Liner Disturbance:  | <input type="checkbox"/> Document date and cause of berm or liner disturbance<br><input type="checkbox"/> Assess the extent of the leakage, if any.<br><input type="checkbox"/> Document action taken to repair damage<br><input type="checkbox"/> Contact Enviro-Ag Engineering, Inc. to inspect and/or certify repaired liner   |
| Other spills:   | <input type="checkbox"/> Document date, item and quantity spilled<br><input type="checkbox"/> When conditions are safe, sample any contaminated areas*<br><input type="checkbox"/> Retain sample results on-site<br><input type="checkbox"/> Check Material Safety Data Sheet for appropriate clean-up procedures   |
| <input type="checkbox"/> Absorbent materials will be obtained from a spill response kit kept in storage and will be applied to prevent the escape to ditches or other outlets leading to natural waterways.   |   |
| <input type="checkbox"/> If a spill has violated the secondary containment facilities and absorbent materials are inadequate to prevent petroleum product from moving away from the containment structure, temporary dams or other suitable measures for spill containment shall be made.   |   |
| <input type="checkbox"/> If for any reason a major spill incident occurs that would violate the collection basin containment, an outside contractor with construction equipment and supplies necessary to construct temporary containment facilities shall be obtained, in a timely manner, to prevent or mitigate contaminants from entering waterways or being carried by rainfall runoff which may discharge to waters of the state.   |   |
| <input type="checkbox"/> In the event of a spill or overfill of a petroleum product or kerosene that results in a release to the environment that exceeds 25 gallons or that causes, at a minimum, a sheen on any nearby surface water, notify the National Response Center (1-800-424-8802) the Environmental Protection Agency 24-hour number (801-536-4300), the DEQ and the local fire department and provide the following information. <ol style="list-style-type: none"> <li>1. Name, address and telephone number of person reporting,</li> <li>2. Exact location of spill,</li> <li>3. Company name and location,</li> <li>4. Material spilled and estimated quantity,</li> <li>5. Source of spill,</li> <li>6. Name of body of water involved, or nearest body of water to the spill area,</li> <li>7. Proposed action for containment clean-up.</li> </ol> |   |

**Table 8.2: EMERGENCY CONTACT INFORMATION**

|   |  |
|---|--|
| <b><i>Human Injury</i></b>                          |  |
| <b>Ambulance and/or Fire Department</b>             | 911 - <b>Emergency Only</b><br><b>Physical Address of Facility:</b> 9246 North 4000 West,<br>Delta, UT 84624 |
| <b>Hospital or Medical Clinic/EMS</b>               | 435-743-5302 (Millard County EMS)  |
| <b>Poison Control</b>                               | 800/222-1222   |
| <b>Fire Department (non-emergency)</b>              | 435-864-2834 (Delta Fire Department)   |
| <b>County Sheriff</b>                               | 435-743-5302 (Millard County Sheriff)  |
| <b>Police Department (non-emergency)</b>            |  |
| <b>Facility Contact – Scott Patton</b>              | ██████████   |
| <b><i>Wastewater/Manure Leaks or Spills</i></b>     |  |
| <b>DWQ AFO/AFO Coordinator</b>                      | 801-536-4492 (Don Hall)  |
| <b>Enviro-Ag Engineering, Inc.</b>                  | ██   |
| <b>Tractor Leasing</b>                              | ████████████████████   |
| <b>Earthwork contractor for berm, liner repairs</b> | ████████████████████   |
| <b>Manure Hauler</b>                                | ████████████████████   |
| <b>Rendering service</b>                            | 435-758-7600 (Kuhni & Sons)  |
| <b><i>System Failures</i></b>                       |  |
| <b>Electricity</b>                                  | RMP 1-888-221-7070   |
| <b>Gas</b>  | Blue Stakes 1-800-662-4111   |
| <b>Feed</b>   | ████████████████████   |
| <b>State Veterinarian</b>                           | 801-538-7162   |
| <b>Central Utah Public Health</b>                   | 435-896-5451   |
|   |  |

## SECTION 9 CERTIFICATION

### 9.1 Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name (Print): \_\_\_\_\_

Title (Print): \_\_\_\_\_

Phone Number: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

|  |
|--|
| <b>SECTION 10 OTHER SUPPORTING DOCUMENTATION</b> |
|--|

[To be updated as needed.]

# MANURE AND COMPOST SAMPLING STANDARD OPERATING PROCEDURES

## 1. Purpose

This document provides guidelines for standardized sampling of manure, litter and/or compost to minimize variability and increase sample reliability. A representative sample is critical in nutrient management planning.

## 2. Responsibilities

### 2.1 Regulations

State regulations require facilities to analyze manure a minimum of once annually for nitrogen and phosphorus content.

### 2.2 Structure Summary

The table below provides structure identifications, sample collection method and sampling frequencies.

| <b><u>Building or<br/>Complex ID or<br/>Description:</u></b> | <b><u>Sample Collection<br/>Method:</u></b> | <b><u>Scheduled Frequency:</u></b>  |
|--|---|-------------------------------------|
| Layer Houses   | Grab Composites                             | Prior to manure cleaning activities |
| Pullet Houses  | Grab Composites                             | Prior to manure cleaning activities |
| Composting Area  | Grab Composites                             | At least one time each year         |

### 2.3 Record Keeping and Reporting

The facility shall maintain all records of analyses for a minimum of five (5) years. Records that shall be maintained include:

- Dates of sampling events;
- Sampling locations;
- Laboratory Chain-of-Custody reports;
- Test methods used to sample and analyze manure; and
- Results from each sampling event.
- Manure laboratory test results shall be provided to any manure recipient.

## 3. Procedures

### 3.1 Sampling Procedures

A representative manure sample is comprised of a minimum of four (4) randomly selected grab subsamples collected from inside the structure (from areas encompassing the entire width of the house) from the entire depth of the manure and thoroughly mixed in a clean plastic bucket. Place the well-mixed manure into a zipper-closing plastic bag.

A representative compost sample is comprised of a minimum of four (4) randomly selected grab subsamples collected from a finished compost pile, from areas encompassing the entire length, width and depth of the finished pile or windrow, and thoroughly mixed in a clean plastic bucket. Place the well-mixed sample into a zipper-closing plastic bag. Finished compost is that which has achieved a stabilized, uniform texture, color, moisture content and temperature.

### 3.2 Transfer of Custody and Shipment of Samples

Properly label the zip-top bag and place in a cooler until delivery to the laboratory under a properly completed chain-of-custody (COC) record. Insulated containers are preferable to assure proper maintenance of sample. Samples should be packed properly to prevent breakage. Responsibility for proper packaging, labeling, and transferring of possession of the sample lies with the person taking it.

All sample shipments must be accompanied by a completed, signed and dated COC and other pertinent forms. A COC should be obtained from the lab with the sampling kit prior to testing. A copy of these forms should be retained by the originator. All receipts associated with the shipment should be retained.

When transferring possession of samples, the transferee must sign and record the date and time of the chain-of-custody record. In general, custody transfers are made for each sample, although samples may be transferred as a group. Each person who takes custody must fill in the appropriate section of the chain-of-custody record.