



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

February 18, 2016

Sako Vandermeer
Providence Dairy
19976 476th Avenue
White, SD 57276-5332

Re: Providence Dairy As-Built Plans Review

Dear Mr. Vandermeer:

The Department of Environment and Natural Resources received three copies of the as-built plans for holding pond 2 and permeability test results for the enlarged clay-lined manure storage pad and the completed clay liner of holding pond 2 on January 22, 2016, and February 16, 2016. The manure management system is located in the Southwest $\frac{1}{4}$ of Section 23, Township 112 North, Range 49 West in Brookings County, South Dakota.

Your approved manure management system is for a housed lot feeding a maximum of 2,400-head of dairy cattle consisting of 2,100-head of mature dairy cattle and 300 dairy calves with 850-head of mature dairy cattle and 300 dairy calves currently permitted. Your permitted Phase 1 system consists of a flume in two barns, a milk parlor, piping, diversion dikes or channels, a feed storage area, a concrete sand settling lane, a concrete sand stacking pad, a clay-lined sand/manure stacking pad, a manure pack calf barn, two settling ponds, one holding pond, and 1.60 acres of drainage area. The Phase 1 pond system is designed for at least 270 days of liquid storage capacity.

Phase 2 is for the remaining unpermitted 1,250-head of mature dairy cattle, an additional freestall barn, milk parlor, and holding pond. The holding pond is the only component of Phase 2 that has been constructed. With the completion of the Phase 2 holding pond, the combined pond system has at least 365 days of liquid storage capacity. The department has also approved modifications to holding pond 1 which have not yet been completed.

We approved the original plans and specifications for the manure pack calf barn on April 23, 2014, and plans and specifications for the expansion to your manure management system on October 30, 2014. The as-built changes consist of the following:

- The bottom elevation of holding pond 2 was decreased from 94.2 feet to 88.7 feet;
- The bottom dimensions of holding pond 2 were decreased from 245 feet by 192 feet to 212 feet by 171 feet which decreased the volume below the permanent marker in the pond from approximately 1,011,680 cubic feet to 879,385 cubic feet;
- The pipe between holding pond 1 and holding pond 2 was changed from a 12-inch to an 18-inch PVC pipe and a chute and splash pad were not installed below the piping in holding pond 1;
- An 18-inch PVC pipe was installed between settling pond 3 and holding pond 2 with a concrete chute and splash pad below the piping in holding pond 2;
- 6-inch high curbing was used along the sides of the concrete chutes and splash pads instead of rock fill. The splash pads were constructed using concrete instead of rock riprap and are 4 feet long instead of 5 feet long;
- The permanent marker in holding pond 2 was moved approximately 40 feet to the east from its originally approved location and was constructed using a 1.25-inch galvanized steel pipe instead of a 2-inch concrete filled PVC pipe or steel "t" post;
- The permanent marker elevation in holding pond 2 was decreased from 109.40 feet to 106.53 feet;
- Your engineer indicates the feed storage area runoff is no longer routed to holding pond 1 and the feed will instead remain covered and the piping between the feed storage area and holding pond 1 has been removed;
- The department received a signed, revised operation and maintenance guideline indicating the feed would remain covered;
- A concrete sand storage bunker which drains to the sand settling lane was constructed east of the north freestall barn; and
- With these changes, the total drainage area was decreased from 1.60 acres to 0.66 acres and the manure management system still has at least 365 days of liquid storage capacity.

We have reviewed and hereby conditionally approve the changes shown on the as-built plans and accept the permeability test results as meeting the requirements of the permit. Two copies of the as-built plans are being kept for our files. Please replace the appropriate pages in your plans and specifications booklet with the revised pages enclosed with this letter and add any additional pages enclosed with this letter into your plans and specifications booklet. The following requirements must be implemented.

Feed Storage Area

Your engineer indicates the feed storage area will now remain covered instead of draining to holding pond 1. If the department finds runoff of process wastewater from the feed storage area, the department will require the runoff be contained.

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Unapproved System Modification

The constructed concrete sand storage bunker was not previously approved by the department. Making changes to your manure management system without prior department approval is a violation of your general permit and may result in an enforcement action.

Other Government

You are responsible for contacting the local planning and zoning office in the county where manure application will take place to determine if there are any local ordinances or requirements with which you need to comply. It is up to local government to enforce their local ordinances.

If you have any questions regarding the content of this letter, please feel free to contact Ben Myers, Feedlot Permit Program at (605) 773-3351. Thank you for your cooperation.

Sincerely,



Kent R. Woodmansey, PE, Engineering Manager
Feedlot Permit Program

cc: Brian Friedrichsen, PE, DE, Huron, SD
Brookings County Commissioners
Luke Muller, F.D.A.L.G., Watertown, SD

Enclosures