

**HILL CREST DAIRY**  
**ODOR AND RUNOFF CONTROL PLAN**  
**Illinois General NPDES Permit**

**IL0074705**

Prepared for:

Hill Crest Dairy, L.L.C.

And

Illinois Environmental Protection Agency

Prepared by:



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**Date:**

August 13, 2010

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Expires: 11/30/11

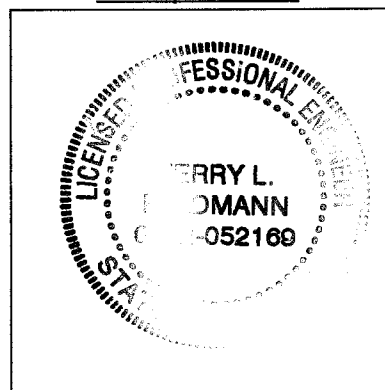
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DATE: \_\_\_\_\_

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MSI Project No. 238-09006B

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## **INTRODUCTION**

On May 1, 2002 a Consent Order was approved by the Tenth Judicial Circuit Court Peoria, IL as case No. 01 CH 76 as agreed to by the Illinois EPA, Illinois Attorney General, and Hill Crest Dairy, LLC (formerly New horizons dairy, LLC). This plan has been prepared pursuant to the compliance section of this Consent Order as one of several required plans.

The purpose of this plan is to outline measures and operational controls or practices that the Dairy will use to control odor and runoff from all permanent waste and silage storage areas. This plan is being updated as of August 2010.

## **Facility Description**

A Site Layout Plan is attached showing the existing facility and anticipated additional facilities. Hill Crest Dairy, L.L.C. is currently a 1610 cow milking facility. Dry cows and new stock (heifers) are raised off site.

Sam Dilsaver is the managing member of Hill Crest Dairy LLC. The dairy is managed by Sam Dilsaver. Manure Systems and handling is managed by Jordan Spackman under the supervision of Sam Dilsaver.

The permanent waste system and silage storage structures are as follows:

1. Concrete Collection tank
2. Concrete Mesophillic digester
3. Concrete Solids stacking
4. Concrete pad for storage of any bagged solids
5. Bunker silos
6. Lagoon

## **Measures and Practices/Operational Controls**

1. The collection tank consists of a 12' deep concrete tank with a permanent precast concrete lid has been constructed. The lid controls odor from the tank. The lid has secure covers over the pump/access openings to prevent accidental access and further control odors. The subgrade surrounding the tank shall be maintained 18" to 24" below the top of the lid.
2. The constructed digesters are covered with an inflatable sealed cover. Bio-gas is drawn by a blower from the digesters to two CAT engine generators where it is burned for electricity and hot water. The effluent side of the digesters serve as a lift station to the separators and is covered with a treated wood structure to prevent access and control odor. The finish grade around the digesters shall be graded to within 12" to 24" of the top of the wall and sloped away from the tank.
3. The existing solids stacking pad is 67' x 130' O.D. with 12' tall walls. The separators are housed in an enclosed, insulated building on a frame located on the east wall of the stack area. This provides all weather operation and controls odor. The solids

stored undergo further biological stabilization in the stack pad as evidenced by the heat cycles.

4. An existing concrete pad (100' x 200') adjacent to the north side of the existing bunker silos is used for silage/haylage.
5. The bunker silos will be properly compacted when being filled and filled with as dry as possible silage (target = 35% DM). Promptly after filling the bunker, it shall be covered with plastic in a manner that directs precipitation away from and out of the silage to minimize silage leachate and control odors. Likewise, surface water shall be diverted away from and around the silage bunkers. All leachate shall be captured and transferred into the lagoon.
6. To reduce odors the organic loading rate to the lagoon shall be reduced by digesting manure excreted followed by solids separation of the manure prior to the liquid entering the lagoon. The lagoon shall be operated by starting to pump prior to reaching the 2' freeboard elevation and stopping pumping at the stop pumping elevation which is the summation of the minimum treatment volume and the sludge storage volume. The start and stop pumping elevations are noted on the staff gauge. A lagoon management plan is followed to maintain the required treatment volume.

Regular inspections and records of all storage facilities shall be conducted and recorded weekly. Any deficiencies such as erosion, excessive weed growth, etc. shall be noted and promptly corrected.