



CHESTER J. CULVER, GOVERNOR  
PATTY JUDGE, LT. GOVERNOR

WW Variance File  
Pump station Trash Basket 13.4.2.

## STATE OF IOWA

DEPARTMENT OF NATURAL RESOURCES  
RICHARD A. LEOPOLD, DIRECTOR

February 26, 2008

Diamondhead Sanitary District  
Mr. Timothy Allen  
9137 Diamondhead Drive  
Dexter, IA 50070

Subj: Department Response to Trash Basket Variance Request  
RE: Lift Station No. 1 Improvements, Project S2008-0247, Permit 2008-0316-S

Dear Mr. Allen:

The Department has received a request for variance from the Iowa Wastewater Facilities Design Standards from your Engineer in a letter dated February 5, 2008. This letter transmits the Department's comments regarding the variance request for the above referenced project.

- A. Design Standard 13.4.2 – Protection against clogging - request variance to installing a trash basket in the existing wet well at Lift station No. 1.

The above variance is approved as providing equivalent effectiveness under a unique set of design circumstances – retrofit of an existing small wetwell pump station, having three sewers entering the wetwell from three different directions, and area landlocked on all sides- all other design standards are met including provisions for controls, alarms, alarm telephone dialer for quick notification of problems and response, redundant pump, and emergency standby generator are provided.

This variance approval is subject to the following condition(s):

1. If in the future, problems arise at the pump station due to plugging of the pumps, the Owner shall take appropriate steps to install clogging protection equipment in accordance with Section 13.4.2 of the Iowa Wastewater Facilities Design Standards.

If you have any questions, please call Satya Chennupati, P.E. at 515-281-8995.

Sincerely,

Wayne Farrand, P.E.  
Wastewater Engineering Section Supervisor

Cc: DNR Field Office #4  
DNR File 6-39-00-3-00  
Veenstra & Kimm, Inc.



# VARIANCE REQUEST

## Iowa Department of Natural Resources

1. Date: February 26, 2008  
2. Review Engineer: Satya Chennupati  
3. Date Received: February 7, 2008  
4. County Number: 25 (Dallas)  
5. Facility Name: Diamondhead Sanitary Dist.  
6. Program Area: CP (Wastewater)  
7. Facility Type: CO5  
8. Subject Area: 344, pump clogging protection  
9. Rule Reference: 507-64.2(9)a  
10. Design Stds Ref: 13.4.2  
11. Consulting Engr: Veenstra & Kimm, Inc.  
12. Variance Rule: 507-64.2(9)c

13. Decision: *approved*  
Date: *2/26/08*

14. Appeal:  
Date:

### 15. Description of Variance Request:

Diamondhead Sanitary District is requesting a variance from the Iowa Wastewater Facilities Design Standards Chapter 13 – Wastewater Pumping Stations and Force Mains – 13.4.2 Protection Against Clogging – requirements for trash baskets. Iowa Wastewater Design Standards for pumping stations require pump clogging protection for all wastewater pumps.

### 16. Consulting Engineer's Justifications

The request is for a variance from installing a trash basket in the existing lift station. The lift station no. 1 has a very small service area at only approx. 20 to 25 homes. The project is not a new lift station and the capacity of the lift station is not changed. The only purpose of the project is to add a second redundant pump and associated valves to the existing lift station. Adding a trash basket to the lift station is not possible. There is not physically room in the wet well for two pumps and a trash basket. There are three influent pipes entering the wet well from three different directions.

If a trash basket is required, the only solution is to install a new wet well next to the existing wet well. Besides the expense, the site is very tight for the addition of a wet well. The lift station is surrounded by streets and driveways on three sides and a large tree on the other side.

Based on the small service area, and retrofit of an existing lift station and the difficulties of installing a trash basket, Diamondhead SD requests a variance.

### 17. Department's Justifications

Recommend variance approval.

The set of circumstances of the project are quite unique. The pump station project is a retrofit of an existing single pump lift station to install a second pump and valves. The existing lift station wet well is quite small and no space exists for the two pumps and a trash basket. There are three sanitary sewers entering the wetwell from three different directions. The Owner provided an alarm telephone dialer for transmitting the alarms for rapid response form maintenance personnel. All other controls and alarms are provided to react within a reasonable amount of time even if the redundant second pump experiences problems. There is an emergency standby generator provided for emergency operation during power failures.

### 18. Precedents Used

19. Staff Reviewer: *Satya Chennupati* Date: 2/26/08

20. Supervisor: *[Signature]* Date: *2/26/08*

21. Authorized by: *[Signature]* Date: *2/26/08*



**VEENSTRA & KIMM, INC.**

3000 Westown Parkway • West Des Moines, Iowa 50266-1320

515-225-8000 • 515-225-7848(FAX) • 800-241-8000(WATS)

---

February 5, 2008

Satya P. Chennupati, P.E.  
Iowa Department of Natural Resources  
Wallace State Office Building  
502 East 9th Street  
Des Moines, Iowa 50319

DIAMONDHEAD SANITARY DISTRICT  
DEXTER, IOWA  
LIFT STATION NO. 1 IMPROVEMENT PROJECT  
VARIANCE REQUEST

The Diamondhead Sanitary District respectfully requests a variance to installing a trash basket in the existing wet well at Lift Station No. 1. Lift Station No. 1 has a very small service area at only approximately 20 to 25 homes. The project is not for a new lift station. The capacity of the lift station is not being changed. The only purpose of the project is to add a second redundant pump and associated valves to the existing lift station.

Adding a trash basket into the existing wet well is not possible. There is not physically room in the wet well for two pumps and a trash basket. There is also three influent pipes entering the wet well from three different directions.

If the trash basket is required, the only solution is to install a new wet well next to the existing wet well. Besides the expense, the site is very tight for the addition of a wet well. The lift station is surrounded by streets and driveways on three sides and a large tree on the other side.

Because of the small service area, the fact this is a retrofit of an existing station, and the difficulties of installing a basket, the Diamondhead Sanitary District requests a variance from the Iowa Department of Natural Resources for installing a trash basket.



Satya P. Chennupati, P.E.  
February 5, 2008  
Page 2

If you have any questions or comments, please contact us at 225-8000.

VEENSTRA & KIMM, INC.

A handwritten signature in cursive script that reads "Forrest Aldrich".

Forrest Aldrich

FSA:jgt  
27619

cc: Diamondhead Sanitary District  
Stephen Patterson, Guthrie County Environmental Health