

# VARIANCE REQUEST

Iowa Department of Natural Resources

1. Date: July 7, 1998
2. Review Engineer: Suresh Kumar
3. Date Received: June 30, 1998
4. County Number: 88
5. Facility Name: Creston
6. Program Area: CP (Wastewater)
7. Facility Type: CO5
8. Subject Area: 344
9. Rule Reference: IAC 567-64.2(9)a
10. Design Stds Ref: Iowa Standards Chapter 13.5.1
11. Consulting Engr: Howard R. Green
12. Variance Rule: IAC 567-64.2.(9)c

13. Decision: *Denied*  
Date: *7/13/98*
14. Appeal:  
Date:

## 15. Description of Variance Request:

The consulting engineer is requesting a variance from the chapter 13.5.1 of the "Iowa Wastewater Facilities Design Standards", which requires the use of 4 inches in diameter discharge pipe. The lift station is designed for an 80 gpm pump. The City anticipates growth within the service area.

## 16. Consulting Engineer's Justifications

- I. 4 inch pipe at 80 gpm pump would result in velocity less than 3.5 feet per second and cause potential grit accumulation inside the pipe.
- II. The lift station has a trash basket with clear opening of 2-1/4 inches that would prevent solids of 3 inches to the pipe.

## 17. Department's Justifications

The consulting engineer claims that the trash basket in the lift station should be enough to prevent the solids of 3 inches to the pipe which is not a good justification because the Department has the experience where technicians at times operated the similar systems with trash baskets not in proper place. There are other designing options the facility could look into such as a grinder pump which permits the use of less than 4 inch pipe or a pump with higher gpm to maintain the velocity. The proposed variance request does not provide equivalent effectiveness because it does not address the issue of pipe clogging. We recommend the requested variance to be denied per the above reasons.

## 18. Precedents Used

None.

19. Staff Reviewer: *Suresh Kumar* Date: *7/13/98*
20. Supervisor: *Howard R. Green* Date: *7/13/98*
21. Authorized by: *Charles M. Adams* Date: *7/13/98*



TERRY E. BRANSTAD, GOVERNOR

DEPARTMENT OF NATURAL RESOURCES

LARRY J. WILSON, DIRECTOR

July 13, 1998

Tom Myers  
Public Works Director  
City of Creston  
116 W. Adams  
Creston, IA 50801

Re: Sanitary Sewer Improvement - Coop Project, 1998, Variance Request

Dear Mr. Myers:

The Iowa Department of Natural Resources (IDNR) has received a variance request from your consulting engineer, Howard R. Green Company, on June 30, 1998. The request is a variance to the chapter 13.5.1 of the "Iowa Wastewater Facilities Design Standards", which requires the use of a minimum of four inches in diameter pump suction and discharge piping. Per the Iowa Administrative Code (IAC) 567-64.2(9)c the Department has reviewed the request.

The variance requested is for the use of 3 inches in diameter pipe instead of the standard 4 inches pipe. The reason for the request was potential grit build up in the piping due to low velocity.

The IAC chapter 567-64.2(9)c allows variation from the design standards when it results in at least equivalent effectiveness while significantly reducing cost or improved effectiveness.

We have reviewed your request. It is the Department's finding that there are other effective alternatives to the proposed design. We suggest the City consider using grinder pumps or larger submersible pumps to maintain the required velocity. We have determined the proposed variance request does not provide equivalent effectiveness because it does not address the issue of pipe clogging. Therefore your variance request is denied.

If you have any question regarding this decision, please contact Suresh Kumar at 515/281-4527.

Sincerely,

Darrell McAllister  
Bureau Chief  
Water Quality Bureau

cc: Howard R. Green  
IDNR Field Office 4