



THOMAS J. VILSACK, GOVERNOR  
SALLY J. PEDERSON, LT. GOVERNOR

DEPARTMENT OF NATURAL RESOURCES  
PAUL W. JOHNSON, DIRECTOR

May 9, 2000

Honorable Mayor  
City of Fort Madison  
811 Avenue E  
Fort Madison, Iowa 52627

**Subject:** *City of Fort Madison Wastewater Facility (20th Street) Improvements-Mechanical Bar Screen*

Dear Mayor:

The Iowa Department of Natural Resources (IDNR) has received and reviewed the variance request for the Wastewater Treatment Facility improvements for the City of Fort Madison submitted by the city's consulting engineer. The requested variance from the Iowa Design Standards 15.2.4.2.1 limits the minimum clear opening for mechanical screens to 5/8 of an inch. The City is proposing a mechanical bar screen with a clear opening of 0.5 inch.

Your request for a variance from the design standard 15.2.4.2.1 has been approved. The proposal by the City of Fort Dodge is substantially equivalent to the department's design standard based on the successful experience of the other facilities in the state.

If you have any questions or comments, please contact Suresh Kumar of the IDNR at (515) 281-4527.

Sincerely,



Jack Riessen, Chief  
Water Quality Bureau

c: Stanley Consultants  
Iowa DNR Field Office 6

✓ 9-8-06

**VARIANCE REQUEST**

Iowa Department of Natural Resources

1. Date: May 9, 2000  
2. Review Engineer: Suresh Kumar  
3. Date Received: May 9, 2000  
4. County Number: 56  
5. Facility Name: Fort Madison  
6. Program Area: CP (Wastewater)  
7. Facility Type: CO4  
8. Subject Area: 329, bar racks  
9. Rule Reference: 567-64.2(9)a  
10. Design Stds Ref: 15.2.4.2.1, bar spacing  
11. Consulting Engr: Stanley Consultants.  
12. Variance Rule: 567-64.2(9)c

13. Decision: *Approved*  
Date: *5/10/00*

14. Appeal:  
Date:

15. Description of Variance Request:

Install a mechanical screen with 1/2 an inch opening rather than 5/8 clear opening.

16. Consulting Engineer's Justifications

The narrower bar spacing will remove more plastics and debris from the combined sewage that the treatment plant receives. The 1/2 an inch bar space does not greatly increase the organic matter in the screenings.

17. Department's Justifications

We are recommending the variance request to be approved based on the above justifications and the following reasons:

1. The ten states design standards do not require a minimum sizing for mechanically cleaned screens.
2. The design is a standardized manufacturer's design that has proven to be no problem; therefore equivalent effectiveness is provided.

18. Precedents Used

Cherokee WWTF  
Clear Lake Sanitary District  
Sully WWTF  
Nora Springs WWTF  
Muscatine WWTF

19. Staff Reviewer: *[Signature]* Date: *05/09/00*  
20. Supervisor: *[Signature]* Date:  
21. Authorized by: *Jude Ressen* Date: *5/10/00*