



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

Screen opening

Variance File
15-2-4-2-1

STATE OF IOWA

DEPARTMENT OF NATURAL RESOURCES
JEFFREY R. VONK, DIRECTOR

October 21, 2005

Mr. Michael Cherry
City of Waverly
200 1st Street NE
Waverly, Iowa 50677

Subject: Variance Request from IA 15.2.4.2.1 & 15.2.4.2.2
WWTP Treatment Plant Improvements 2005, Waverly, Iowa

Dear Mr. Cherry:

The Iowa Department has considered and approved your October 14, 2005 request for variance from Rule 567-64.2(9)b of the Iowa Administrative Code and Section 15.2.4.2.1 of the Iowa Wastewater Facilities Design Standards, which requires a minimum 5/8 inch opening for the mechanically cleaned bar screen. Based on the documentation presented by the Engineer, it is the determination of this Department that satisfactory justification has been presented to warrant the granting of a variance for using a minimum clear opening of 1/4-inch for the mechanically cleaned bar screen.

This decision is based on our review of justification presented to support the request and our concurrence that the resulting project will provide substantially equivalent effectiveness as would be provided by technical compliance with the design standard on this issue.

The second request for variance from Design Standards Section 15.2.4.2.2 is for allowing a slope of 84-degree inclination from the horizontal for mechanically cleaned screen. It is the determination of the Department that this variance is not needed because the Iowa Wastewater Facilities Design Standards only address slope requirements for manually cleaned bar screens. The requirement does not extend to mechanically cleaned bar screens that are used in this project. Therefore, a variance for slope will not be issued by this Department.

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

Sincerely,

Wayne Farrand, P.E.
Wastewater Section Supervisor

cc: Field Office #1
McClure Engineering
DNR File 6-09-90-0-01

✓ 9.8-06

VARIANCE REQUEST

Iowa Department of Natural Resources

1. Date: October 21, 2005
2. Review Engineer: Satya P. Chennupati
3. Date Received: October 18, 2003
4. Facility Name: City of Waverly STP
5. County Number: 9 (Bremer)
6. Program Area: CP (Wastewater Construction)
7. Facility Type : C04 (Physical Treatment)
8. Subject Area : 329
9. Rule Reference: 567-64.2(9)a
10. Design Stds Ref: 15.2.4.2.1
11. Consulting Engr: McClure Engineering
12. Variance Rule: 567-64.2(9)c

13. **Decision:**

Date:

14. **Appeal:**

Date:

approved
1/19/06

15. Description of Variance Request: Allow installation of a mechanically cleaned bar screen with 1/4" clear spacing instead of the minimum 5/8" clear spacing required by the Iowa Wastewater Design Standards.

16. Consulting Engineer's Justifications

- The proposed screen will be mechanically cleaned with opening space of 6 mm (1/4") to improve removal efficiency and more effectively prevent foreign objects from reaching the wastewater treatment plant.

17. Department's Justifications

- Recommend Approval.
- Successful past operating history in several municipal wastewater treatment installations in Iowa.
- Mechanical screens with openings less than 5/8" are an accepted engineering design practice.
- Ten States Standards (1997) does not specify minimum size of screen openings.
- A manually cleaned auxiliary bar screen is available if the primary screen is taken out of service.

18. Precedents Used

Carroll, Walford, Clear Lake S.D., Osage, Tama, Newton, Altoona, Cherokee, West Liberty, Waukee, etc.

19. Staff Reviewer:

Satya chennupati

Date:

10/21/05

20. Supervisor:

Date:

21. Authorized by:

[Signature]

Date:

1/19/06



October 14, 2005

Mr. Satya Chennupati
Iowa Department of Natural Resources
Wastewater Section
Wallace Building
502 East 9th Street
Des Moines, IA 50319-0034

RE: Wastewater Treatment Plant Improvements 2005
MEC 13168

Dear Satya:

We are requesting a variance from the IDNR Wastewater Treatment Plant Design standards for the following items:

15.2.4.2.1 Bar Spacing

Clear openings between bars shall be no less than one inch (1") for manually cleaned screens. Clear openings for mechanically cleaned screens may be as small as 5/8 of an inch. Maximum clear openings shall be 1-3/4 inches.

The proposed screen will be mechanically cleaned with opening spacing of 6mm (1/4") to improve removal efficiency and more effectively prevent foreign objects from reaching the wastewater treatment plant.

15.2.4.2.2 Slope

Manually cleaned screens, except those for emergency use, shall be placed on a slope of 30 to 60 degrees from the horizontal.

The proposed screen will be installed at an 84 degree incline to match the existing equipment and building. Installation at any other angle is difficult or impossible due to constraints of the existing main lift building.

If you have any questions, please feel free to contact me.

Very truly yours,

McCLURE ENGINEERING COMPANY

Darin J. Jacobs, P.E.

DJJ:db

Enclosures

cc: Mike Cherry, City of Waverly

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OFFICES

ANKENY
CORALVILLE
OTTUMWA