



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

Variance File
15.2.4.2.1
Screen opening SPC

STATE OF IOWA

DEPARTMENT OF NATURAL RESOURCES
JEFFREY R. VONK, DIRECTOR

April 14, 2004

Mr. Larry Kubli
Wastewater Superintendent
City of Indianola
110 North First Street
Indianola, Iowa 50125

Subject: Variance Request from IA 15.2.4.2.1
2004 Wastewater Treatment Facility Improvements, Indianola, Iowa


Dear Mr. Kubli:

The Iowa Department has considered and approved your April 12, 2004 request for a variance from Rule 567-64.2(9)b of the Iowa Administrative Code and Chapter 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 City, it is the determination of this Department that satisfactory justification has been presented to warrant the granting of a variance to the City of Indianola for using a minimum clear opening of 1/2-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.

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 #5
DNR File 6-91-33-0-01
Veenstra & Kimm, Inc.

✓ 9-8-06

VARIANCE REQUEST

Iowa Department of Natural Resources

1. Date: April 14, 2004
 2. Review Engineer: Satya P. Chennupati
 3. Date Received: April 13, 2004
 4. Facility Name: City of Indianola STP
 5. County Number: 91 (Warren)
 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 Std's Ref: 15.2.4.2.1
 11. Consulting Engr: Veenstra & Kimm, Inc.
 12. Variance Rule: 567-64.2(9)c

13. **Decision:** *approved*
 Date: *4/16/04*
 14. **Appeal:**
 Date:

15. Description of Variance Request: Allow installation of a mechanically cleaned bar screen with ½" clear spacing instead of the minimum 5/8" clear spacing required by the Iowa Wastewater Design Standards.

16. Consulting Engineer's Justifications

- Smaller size screen opening to remove plastic material from the wastewater flow because the 5/8" screen does not remove all of the plastic material from the wastewater.
- Plastic material accumulates in the digesters and is ultimately land applied with biosolids. One of the primary objections of the local landowners to the land application of biosolids is the plastic material within the biosolids. The goal for the ½" screen size is to eliminate the plastic material during the screening process.
- The proposed screen has an automatic washer to remove organic materials and specifically remove non-organic material thereby reducing the screen volume to a manageable level.

17. Department's Justifications

Recommend Approval.

- Successful past operating history in several municipal wastewater treatment installations in Iowa up to ¼-inch screen opening.
- Mechanical screens with openings less than 5/8" have been an accepted engineering design practice.
- Ten States Standards (1997) does not specify minimum size of screen openings.

18. Precedents Used

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

19. Staff Reviewer: *Satya Chennupati* Date: *4/14/04*

20. Supervisor: _____ Date: _____

21. Authorized by: *[Signature]* Date: *4/16/04*



52004-0358
VEENSTRA & KIMM, INC.

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

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

April 12, 2004

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

INDIANOLA, IOWA
2004 WASTEWATER TREATMENT FACILITY IMPROVEMENTS
SCREEN DESIGN VARIANCE

A design variance for the mechanical screen is requested. The City is aware the design standards require a minimum opening of 5/8-inch. A variance to allow the mechanical bar screen to be designed with a 1/2-inch opening is requested.

The purpose for the small 1/2-inch opening on the screen is to remove plastic material from the wastewater flow. A 5/8-inch screen does not remove all of the plastic material from the wastewater flow. The plastic accumulates in the digesters and is ultimately land applied. One of the primary objections of local landowners to the land application of biosolids is the plastic material within the biosolids. The goal in reducing the design opening of the bar screen is to eliminate the problem with plastic material by removing the plastic during the screening process.

The screen proposed for the wastewater treatment plant includes an automatic washer to remove organic materials. The screen is designed specifically to remove non-organic material. This design reduces the screen volume to a manageable level. The City requests a design variance to allow the 1/2-inch spacing at the screen.

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

VEENSTRA & KIMM, INC.

Timothy J. O'Connor

169168

cc: Larry Kubli, City of Indianola