

VARIANCE REQUEST

Iowa Department of Natural Resources

1. Date: April 16, 2003
2. Review Engineer: Larry Bryant
3. Date Received: April 7, 2003
4. Facility Name: City of Jefferson
5. County Number: 37 (Greene)
6. Program Area: CP (Wastewater Construction)
7. Facility Type: C04 (Physical Treatment)
8. Subject Area: 329 (Bar Racks and Screens)
9. Rule Reference: 567-64.2(9)a
10. Design Stds Ref: 15.2.4.2.1 (Bar Spacing)
11. Consulting Engr: FOX Engineering Associates, Inc.
12. Variance Rule: 567-64.2(9)c

13. Decision: *Approved*
Date: *4/17/03*

14. Appeal:
Date:

15. Description of Variance Request:

The City of Jefferson is proposing replacement of comminutors at the existing wastewater treatment plant with mechanically cleaned bar screen. The City is requesting a variance to use a screen with $\frac{1}{4}$ " openings in lieu of the minimum $\frac{5}{8}$ " opening required by the Iowa Wastewater Facilities Design Standards.

16. Consulting Engineer's Justifications

"The reason for this request is that this facility does not include primary settling, so we feel it is beneficial to utilize the smaller opening size to screen out a larger proportion of the incoming solids. The collected screenings will be washed, compacted and bagged automatically by the screenings washings press, which will help reduce problems with odors and flies normally associated with screens with finer opening sizes. In addition, the $\frac{1}{4}$ inch opening size has been utilized at numerous other wastewater treatment plants in Iowa with no significant problems."

17. Department's Justifications

Recommend variance approval:

The proposed $\frac{1}{4}$ " sizing has been used successfully at many other locations for a number of years and is now an accepted design practice, i.e. the IA Standards are outdated on this issue. A bypass channel with a manually cleaned coarse bar screen will be available should the mechanically cleaned screen need to be taken out of service. 10-States Standards does not include a minimum sizing for mechanical bar screens.

18. Precedents Used

Clear Lake S.D. - Approved 7/10/96	Fort Madison - Approved 5/10/00	Winterset - Approved 8/7/92
Osage - Approved 12/18/98	Nora Springs - Approved 4/2/99	Cherokee - Approved 1/12/99
Tama - Approved 4/6/93	Newton - Approved 4/2/02	Corning - Approved 8/26/02

19. Staff Reviewer: *[Signature]*

Date: *4/16/03*

20. Supervisor: *[Signature]*

Date: *4/16/03*

21. Authorized by: *[Signature]*

Date: *4/17/03*



April 7, 2003

Larry Bryant, Project Manager
IDNR Wastewater Section
Wallace State Office Building
Des Moines, Iowa 50319

**Re: Jefferson, Iowa
Wastewater Treatment Improvements
Request for Variances
FOX P.N. 2486-01A.400**

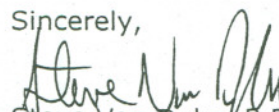
Dear Mr. Bryant:

We hereby request the following variances for the subject project:

1. Site separation distance: Section 14.2.3.f. of the IDNR Design Standards requires a separation distance of 25 feet of for wastewater facilities from property lines and right-of-way. We request being allowed to locate the new clarifier, Final Clarifier 3, approximately 5 feet from the Russell Street right-of-way line. The reason for this request is that there is no other feasible location for this clarifier. The City Park located across sites atop a 20-30' embankment, reducing the impact of the reduced site distance. Given this fact and the general location that the plant is located in, we feel that the impact of approving this request will be negligible.
2. Bar screen opening size: Section 15.2.4.2.1 of the IDNR Design Standards limits clear openings to 5/8 inch minimum. We request being allowed to utilize 1/4 inch openings, as currently specified. The reason for this request is that this facility does not include primary settling, so we feel it is beneficial to utilize the smaller opening size to screen out a larger proportion of the incoming solids. The collected screenings will be washed, compacted and bagged automatically by the screenings washings press, which will help reduce problems with odors and flies normally associated with screens with finer opening sizes. In addition, the 1/4 inch opening size has been utilized at numerous other wastewater treatment plants in Iowa with no significant problems.
3. Sludge storage tank aeration/mixing: Section 17.3.4.3 of the IDNR Design Standards require that sludge holding tanks be mixed with satisfactory aeration equipment. We request being allowed to provide mechanical mixing for the sludge storage tank only, with no additional aeration. The reason for this request is that in our experience, most sludge storage tanks in Iowa do not include additional aeration after adequate digestion and generally do not have any problems. We do not feel that the aeration is necessary, given the aerobic treatment that will precede it.

Please do not hesitate to contact me if you have any questions or concerns.

Sincerely,


Steve Van Dyke, P.E.

cc: Jo Ann Strack, City of Jefferson

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