V 9-8-06

VARIANCE REQUEST

Iowa Department of Natural Resources

1. Date:	June 18, 2003
2. Review Engineer:	James A. Hallmark
3. Date Received:	March 25, 2003
4. Facility Name:	City of Walford STP
5. County Number:	Benton (06)
6. Program Area:	CP (Wastewater Construction)
7. Facility Type :	C05 (Biological Treatment)
8. Subject Area :	321
9. Rule Reference:	567-64.2(9)a
10. Design Stds Ref:	14.5.2.3(4)
11. Consulting Engr:	Hart-Frederick Consultants
12. Variance Rule:	567-64.2(9)c

13. **Decision:** Approved
Date: 6/25/03

14. **Appeal:**
Date:

15. Description of Variance Request:

- The City of Walford is abandoning their existing 3 cell aerated lagoon treatment facility and constructing a new mechanical wastewater treatment facility (Aeromod). The city will convert one of the lagoons into a flow equalization basin. The City has requested a variance from IA 17.5.2.3(4) requiring final clarifiers to be constructed so that with the largest unit out of service, the remaining units shall have a design load capacity of at least 75% of the total design loading to that unit operation. In a case where a portion of the plant needs to be removed from service the plant as proposed will meet the 75% reliability by routing the flow above the clarifier's capacity to the flow equalization basin.

16. Consulting Engineer's Justifications

- The plant has a capacity of 0.96 mgd and operates with two trains that can function independent from each other. If the need arises that ½ the plant needs to be removed from service, flows in excess of 0.48 mgd will be pumped to the flow equalization basin. The flow equalization basin has sufficient capacity to store flows for up to 9.6 days between the plant capacity 0.48 mgd and the MWW flow of 0.72 mgd.

17. Department's Justifications Recommend approval

- The flow equalization basin has a volume of 2.7 million gallons that will provide significant hydraulic retention time. The large flow equalization basin, provides additional reliability.
- Most of the parts of the clarifiers can be accessed and serviced without dewatering the clarifier.

18. Precedents Used

- City of Waukee, Approved 5/1/98
- City of Osage, Approved 7/2/98

19. Staff Reviewer: James A. Hallmark Date: 6/18/03

20. Supervisor: Date: 6/25/03

21. Authorized by: J Riessen Date: 6/25/03

HFC HART-FREDERICK CONSULTANTS P.C. www.hart-frederick.com
510 E. State Street • P.O. Box 560 • Tiffin, IA 52340-0560 • 319-545-7215 • Fax: 319-545-7220

March 25, 2003

Mr. James Hallmark
Iowa Department of Natural Resources
900 E. Grand Avenue
Henry A. Wallace Building
Des Moines, Iowa 50319

Re: Reply to Comments on "Supplement to Preliminary Engineering Report"
Wastewater Treatment Improvement Project
Walford, Iowa

Dear Mr. Hallmark,

The intent of this letter is in response to your review comments on the "Supplement to Preliminary Engineering Report" in your letter on November 26, 2002 and March 5, 2003, and to make the necessary changes on the design process accordingly. Some questions addressed in November 26, 2002's letter have been clarified during phone conversations. In response to the two said letters, we offer the following itemized comments and clarifications for your review and approval.

1. The sludge will be removed from the lagoons before any lagoon cells to be filled by soil. The land application of the removed sludge will be in accordance with Iowa Administrative Code 567, Chapter 67. A Sludge Plan will be established before any sludge disposal. One copy of the Sludge Plan will be submitted to IDNR. (Question #1 /March 5)

2. An emergency generator will be included in the project as indicated in the Supplement to Preliminary Engineering Report. (Question #2/March 5)

3. The sludge storage lagoon has capacity to store the sludge for up to 6 years, but the sludge can be land applied more frequently depending on the City's schedule. A revised Sludge Plan will be established after the plant is on-line. (Question #3/March 5 & #6/November 26)

4. The original design includes two flow meters, one Mag meter to measure the influent flow, and one Ultrasonic flow meter at the discharge structure to measure the effluent flow. However to measure the influent more accurate as your recommendation, we revised the design (See attached Revised Proposed Process Schematic and Site layout). In lieu of split the flow at the original proposed splitter box, the flow will be split at the proposed lift station. This way the Mag meter will measure all and only the flow to the plant.

We hope the above will clarify your concerns. If you should have any additional questions, please contact our office.

Sincerely

Michael W. Hart, P.E.
Hart-Frederick Consultants P.C.

Cc: City of Walford

Iowa
Fields of Opportunities

STATE OF IOWA

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

DEPARTMENT OF NATURAL RESOURCES
JEFFREY R. VONK, DIRECTOR

June 18, 2003

Mayor Randy Bauer
City of Walford
120 5th Street N
P.O. Box 148
Walford, Iowa 52351

Subject: Variance Request from IA 14.5.2.3(4)
Walford, Iowa
Wastewater Treatment Improvements
CS192223-01

Honorable Mayor Bauer:

The Iowa Department of Natural Resources in accordance with Subrule 567—64.2(9)c of the Iowa Administrative Code has approved your March 25, 2003 request for a variance from the Department Rule 567—64.2(9)b and Chapter 14.5.2.3(4) of the Iowa Wastewater Facilities Design Standards, which requires that final clarifiers be a sufficient number of units of a size such that, with the largest unit out of service, the remaining units shall have a design load capacity of at least 75% of the total design loading to that unit operation. Based on the documentation presented by the design engineer, it is the determination of this Department that satisfactory justification has been presented to warrant the granting of a variance to the City of Walford to design both final clarifiers based on 50% of the total design loading in lieu of the 75% total design loading.

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 Jim Hallmark at 515-281-7767.

Sincerely,

Jack Riessen, P.E., Chief
Water Quality Bureau

cc: Hart-Frederick
Field Office #1
DNR File

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