

# VARIANCE REQUEST

## Iowa Department of Natural Resources

1. Date: October 10, 2007  
2. Review Engineer: Michael Chyi  
3. Date Received: September 25, 2007  
4. Facility Name: Marshall County Law Center  
5. County Number: 64  
6. Program Area: CP (Wastewater Construction)  
7. Facility Type: C05 (Biological Treatment)  
8. Subject Area: 379 (Influent Line Termination)  
9. Rule Reference: 567-64.2(9)a  
10. Design Stds Ref: Appendix 18C-C  
11. Consulting Engr: Garden & Associates, Ltd.  
12. Variance Rule: 567-64.2(9)c

13. Decision:

Date:

*appeal*  
*10/2/07*

14. Appeal:

Date:

### 15. Description of Variance Request:

The Marshall County Law Center and its consulting engineer are requiring a variance from Appendix 18C-C of the Iowa Wastewater Facility Design Standards, which requires the auxiliary influent line (primary cell bypass) terminate at approximately the center of the cell for proper solids dispersion. To terminate the auxiliary influent line at the corner/dike of the secondary cell is proposed.

### 16. Consulting Engineer's Justifications

1. The MCLC agrees to expand the proposed two cell controlled discharge lagoon for the next phase of treatment improvements to serve the future community needs in near future. The most economical approach to upgrade the MCLC WWTF for short and long term plan as specified in the Facility Plan is the option E, which is to upgrade the primary cell and expand the secondary cell for the current improvements. In the enclosed letter of August 24, 2007, the Marshall County will construct an identical parallel controlled discharge lagoon treatment train or otherwise to improve the WWTF as needed to meet treatment limits when the WWTF do not comply with NPDES discharge limitations in the future, or if/when organic loading exceeds 25 lbs BOD/acre/day of the primary cell. Accordingly, it is not necessary to lay the auxiliary influent line at approximately the center of the secondary cell at this improvement stage.

### 17. Department's Justifications

#### **Recommend Approval:**

I concur with the engineer's justifications.

### 18. Precedents Used

19. Staff Reviewer: Michael Chyi, *Michael Chyi*

Date: October 10, 2007

20. Supervisor:

Date:

21. Authorized by: *[Signature]*

Date:

*10/12/07*



Chapter 18C. 5.2.1, 5.1,  
7.4.4, 7.4.6, 7.7, 10.6  
18C-C  
STATE OF IOWA

CHESTER J. CULVER, GOVERNOR  
PATTY JUDGE, LT. GOVERNOR

DEPARTMENT OF NATURAL RESOURCES  
RICHARD A. LEOPOLD, DIRECTOR

October 10, 2007

John Kunc, Director Planning and Zonning  
Marshall County  
1 East Main St.  
Marshalltown, IA 50158

RE: Variance Request  
Wastewater Treatment Facility Improvements  
Marshall County Law Center

Dear Mr. Kunc:

The Iowa Department of Natural Resources, in accordance with subrule 567 IAC 64.2(9), has reviewed the variances requested by your organization in the September 6, 2007 letter from your consulting engineer, Garden & Associates, Ltd. These decisions are based on our review of justification presented to support your requests and our concurrence that the resulting project will provide substantially equivalent effectiveness as would be provided by technical compliance with the design standards on these issues.

- Item 1: A variance from Design Standard 18C.5.2.1 to allow the maximum organic loading on the primary cell of a two cell controlled discharge lagoon to be 25 pounds BOD5/acre/day is approved.
- Item 2: A variance from Design Standard 18C.5.1 to allow a two cell controlled discharge lagoon system in lieu of the minimum three cells required by the standards for all facilities greater than one acre total surface area is approved.
- Item 3: A variance from Design Standard 18C.7.4.4 to allow installation of the influent lines at or above the elevation of the pond seal is approved provided that the influent lines placed at or above the seal must be ductile iron piping and properly anchored.
- Item 4: A variance from Design Standard 18C.7.4.6 to eliminate the saucer-shaped depression at the discharge point of the influent lines required by the standard is approved provided with the following conditions.  
The influent line discharge lines shall rest on a suitable concrete apron which is large enough such that the terminal influent velocity at the end of apron does not cause soil erosion. The apron must have a lip or baffle at the opposite side of the discharge point.
- Item 5: A variance from Design Standard 18C.7.7 to allow prefilling of lagoons to one foot level is approved.

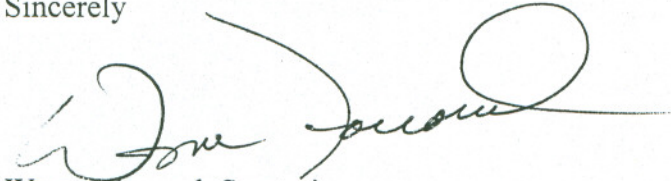


Item 6: A variance from Design Standard 18C.10.6 to allow pond level measurement via riser piping in lieu of pond gauges as required by the standards is approved provided that another acceptable means of cell depth measurement will be installed if freezing proves to be a problem.

Item 7: A variance from Design Standard Appendix 18C-C to terminate auxiliary influent line (primary cell bypass line) at the corner/dike of the secondary cell is approved.

Please contact Michael Chyi at [michael.chyi@dnr.iowa.gov](mailto:michael.chyi@dnr.iowa.gov) or 515-281-7823 if you have any questions.

Sincerely

A handwritten signature in black ink, appearing to read "Wayne Farrand", with a large, stylized loop at the end.

Wayne Farrand, Supervisor  
Wastewater Construction Section

cc: - Garden & Associates, Ltd. P.O. Box 451, Oskaloosa, IA 52577  
- DNR Field Office #5