9/6/06

# VARIANCE REQUEST

18C.4.1

Iowa Department of Natural Resources

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| 1. Date | : 6/11/91. | 13. Decision: | Denied |
| 2. Review Engineer | : Fred Evans | Date: | 6-14-91 |
| 3. Date Received | : 2/21/91 | | |
| 4. Facility Name | : Lockridge | 14. Appeal: | |
| 5. County Number | : 51 | Date: | |
| 6. Program Area | : CP | | |
| 7. Facility Type | : C05 | | |
| 8. Subject Area | : 300 | | |
| 9. Rule Reference | : 64.2(9) | | |
| 10. Design Std. Ref. | : 18C.4.1 & 12.3.1.1 | | |
| 11. Consulting Engr. | : French-Reneker-Associates, Inc. | | |
| 12. Variance Rule | : 64.2(9)c | | |

15. Description of Variance Request

The City of Lockridge does not have a comprehensive wastewater collection and treatment system. The designing engineer is proposing that the design of a proposed wastewater treatment plant be based upon actual water usage plus an allowance for infiltration in lieu of the minimum basis of design criteria set forth in Sections 12.3.1.1 and 18C.4.1 of the design standards. City records for callender year 1990 indicate a municipal water usage of approximately 53 gpcd. Based upon the proposed sanitary sewer system and an infiltration rate of 200 gallons per day per inch-mile of pipe, the engineer calculates an additional 23 gpcd for the maximum infiltration rate, and, therefore, requests a variance to design for a flow of 76 gpcd in lieu of the required 100 gpcd design value for new municipal systems.

16. Consulting Engineer's Justification

1. Small municipal wastewater collection systems (including building laterals), properly designed and constructed in accordance with current requirements, can be expected to produce less than 100 gpcd of wastewater.

16. Consulting Engineer's Justification (cont.)

17. Department's Justification It is recommended that the requested variance be denied since the engineer does not provide adequate engineering justification. His premise for requesting a variance is based upon a status quo situation where there will be no increase in future per capita water usage, also no increase in loadings from future growth in the community, where adequate control of service connections will be provided to prevent any increase in I/I, and where adequate maintenance of the sewer system will be provided to prevent or rehabilitate any possible deterioration of sewers and manholes. Such variables are unpredictable in small communities such as Lockridge and any or all of the above causes for increased hydraulic loadings could occur. This is particularly critical in small communities (including Lockridge) which are funded by FmHA, since such funding includes loans which are spread over a 40 year period. The repayment of such loans severely limits the funding capabilities of these communities if expansion of the wastewater treatment facilities is required during the funding period. Also most of the FmHA funded projects are designed on the basis of existing populations during the initial design.

18. Precedents Used Past variance requests for use of per capita flow values of less than 100 gpcd for design of municipal wastewater treatment facilities have been denied for the Cities of Hartford, Grand River, Van Wert, Shambaugh, New Providence Fort Atkinson, and Burr Oak.

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| 19. Staff Reviewer | : Jack Evans | Date: 6/12/91 |
| 20. Supervisor | : | Date: 6/13/91 |
| 21. Authorized by | : Darrell W. Abbott | Date: 6/14/91 |