

VARIANCE REQUEST

Iowa Department of Natural Resources

1. Date : 11-6-89
2. Review Engineer : GSL
3. Date Received : 10-10-89
4. Facility Name : City of Chillicothe
5. County Number : 90
6. Program Area : CP
7. Facility Type : C05
8. Subject Area : 308
9. Rule Reference : 64.2(3)a
10. Design Std. Ref. : 14.2.3
11. Decision : Approved Date: 12/4/89
12. Appeal Action : Date:
13. Consulting Engr. : IIW - Gary Sejkora
14. Variance Rule : 64.2.9(c)

15. Description of Variance Request

A new intermittent sand filter was proposed for this project. Currently the city's wastewater needs was serve by individual on-site systems. Some system relies on subsurface absorption fields and other relies on surface discharge for final disposal of wastewater. The city proposed to located the treatment facility at a site within 1000' of an inhabitable residence. The city is unsuccessful in obtaining a waiver from the owner of the residence. An alternate site was proposed, approx. 300' SW of the original. However, it is still within 1000' of the mentioned residence, again the owner refused the waiver. A third site was explored to meet the 1000' requirement. The available site meeting the 1000' requirement is in the floodway of a flood plain. The original proposed site is not in the flood plain but the alternate is in the backwaters of a 25-yr flood plain. The engineer proposed to built up the sand filter to elevate it above the 25-year flood. The city has requested the Dept. to grant a variance on the alternate site.

16. Consulting Engineer's Justification

1. The site meeting 1000' requirement will increase the project cost up to 40%.
2. The 'Alternate' site is in a more secure location compared to the site that meets the 1000' requirement. The alternate site is located in the backwaters of a flood plain and the '1000' site is in the floodway.

16. Consulting Engineer's Justification (cont.)

3. The '1000' site is further from the septic tanks than the 'alternate' site and this '1000' site therefore incurs an increase in pumping cost. Also the 1000' site requires 1500' of access road and the alternate site requires 200' of road.
4. The user charge will be higher for the 1000' site than the alternate site. The Engineer did not give any number but he indicated that the user charge for the original site is \$20/mo a
5. The feasibility of the project would become questionable if the City were required to build on the '1000' site.

17. Department's Justification Recommend Approval.

1. Proposed facility is a buried sand filter thus eliminating aesthetics and odor problems. The alternate site is 600' from the residence, therefore meeting our required 400' separation from private wells.
2. Alternate site is more cost effective than the third site meeting the 1000' requirement.
3. Alternate site is located in a safer location i.e. in the back waters of the floodplain and the '1000' site is located in the floodway.
4. The sand filter is buried but will be a sealed process. Filtrate is collected and discharged to surface waters. No discharge will occur to groundwater.

18. Precedents Used

Bronson - approved 7-11-85.
Troy Mills, S.D. - approved 9-8-85
Eddyville - approved 6-25-85
Riverview Estates - approved 10-10-86

19. Staff Reviewer

: *G. G. G. G.*

Date: 11-17-89

20. Supervisor

: *[Signature]*

Date: 11/20/89

21. Authorized by

: *Samuel McAllister*

Date: 12/4/89

**IOWA DEPARTMENT OF NATURAL RESOURCES
Surface and Groundwater Protection Bureau**

Date: November 1, 1989

To: Wayne Farrand

From: Gabe Lee

Subject: Chillicothe: Sand Filters

Received a variance request from Gary Sejkora of IIW for variance request for the site separation distance on October 10. Site survey doesn't give much information. The saga is that the owner of the original site do not want to sign the waiver and the owner of the alternate site have not responded. Both these owners live out of state. The City needs to know soon or they might lose their funding. Geological Survey express some concern about the original site. However they did not expressly forbid the site. The caution was about groundwater contamination from the sand filters. After some letters, Gary is willing to incorporate bentonite seal under the filters. The Geological Survey still express the same concerns since the alternate site is only 200 feet SW of the original site. I have talk to GS and they will respond to us accordingly, have not received anything from them yet since the last phone call on 10-26-89.

Just talked to Dave Claman of Flood Plains and he indicated that they need to protect the site from the 100 year flood and they need a permit from the FP if they are below 100 year flood level. As far as the groundwater it's up to us to decide. Note that high groundwater usually accompanies floods.

I believe we could approve the site based on the technical aspects if sufficient safeguards were made to ensure the protection of the groundwater and floodwater. However, my concern is political, we have not really heard back from the land owner of the alternate site. If we approve the variance request there might be some backlash. I will talk to you later about the case. I will be looking into Riverveiw Estates which has the similar situation.