

ILLINOIS POLLUTION CONTROL BOARD  
February 6, 1986

CITY OF FLORA, ILLINOIS, )  
 )  
 Petitioner, )  
 )  
 v. ) PCB 85-128  
 )  
 ILLINOIS ENVIRONMENTAL )  
 PROTECTION AGENCY, )  
 )  
 Respondent. )

MR. THOMAS J. IMMEL AND MR. JAMES L. BRISSENDEN APPEARED ON BEHALF OF THE CITY OF FLORA.

MR. RICHARD C. WARRINGTON APPEARED ON BEHALF OF THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY.

OPINION AND ORDER OF THE BOARD (by J.D. Dumelle):

This matter comes before the Board upon a Petition for Variance filed by the City of Flora (Flora), pop. 5,379 (1980), on August 23, 1985 requesting variance from 35 Ill. Adm. Code 302.406 (fecal coliform water quality standard for secondary contact waters), 304.120 (deoxygenating wastes effluent standard), 304.121 (fecal coliform effluent standard) and 304.301 (exception for ammonia nitrogen water quality violations) for Flora's wastewater treatment plant's (WWTP) discharge to Seminary Creek, Clay County, Illinois. Flora requests that the variance expire on July 1, 1988. (Pet. p. 4). The Illinois Environmental Protection Agency (Agency) filed its recommendation on October 15, 1985, advising that Flora's petition for variance be denied. Flora filed a response to the Agency's recommendation on October 28, 1985, indicating, inter alia, that the applicable fecal coliform water quality standard was 35 Ill. Adm. Code 302.209 (primary contact waters) and that Flora was also in need of a variance from 35 Ill. Adm. Code 306.304 (overflows) and requested the Board for leave to amend its variance petition instanter in order to make the necessary alterations. This request is hereby granted.

Several persons have made submissions to the Board expressing their objections to the variance relief requested by Flora. The Board received such letters from : Joseph C. Burt on September 6; Judy Smith on September 11; Donna L. McAllister on September 11; Bernard H. Goudy on September 12; and Bennie and Barbara Vandaneer on September 18. All are residents and/or property owners in rural areas adjacent to Seminary Creek and downstream from the treatment plant's outfall.

Hearing was held on November 14, 1985 at which testimony was given by Roger Edminson, City Engineer for Flora; David Thompson, Superintendent of the WWTP for the City of Flora; Joseph Burt, Donna McAllister, Judy Smith, Jim Klien and Brenda Lush all of whom own property in the vicinity of Seminary Creek but are not within the service area of Flora's WWTP. The essence of the citizens' testimony centered on their concern that Seminary Creek was already too polluted and that the City of Flora will not aggressively pursue construction of the proposed Municipal Compliance Plan (MCP). Even though these citizens are not within the service area of Flora's WWTP, the Board acknowledges the importance of their testimony since they will be affected by our decision. Also at hearing, the Agency indicated its intent to file an amended recommendation. However, it has subsequently declined to do so. For reasons detailed below, the Board hereby grants Flora variance from 35 Ill. Adm. Code 302.209, 304.120, 304.121, 304.301 and 306.304, subject to conditions.

Flora owns and operates a WWTP facility with a design average flow of 1.0 million gallons per day (MGD). The plant consists of an aerated grit chamber, trash bar screens, comminutors, flow diversion chamber, primary clarifiers, aeration basins, secondary clarifiers, tertiary sand filters, sludge drying beds and chlorination facilities. A heated anaerobic digester and an unheated secondary digester are used to digest the sludge. The present facilities began operation in 1976 with the most recent upgrading being completed in the fall of 1984. Flora's WWTP discharges to Seminary Creek, thence to Elm Creek, Elm River, Little Wabash River and, finally, the Wabash River. The Illinois State Water Survey classifies Seminary Creek as a zero low flow stream. (Rec. p. 2).

Flora discharges under NPDES Permit No. IL0020273, effective March 2, 1983 and scheduled to expire on January 31, 1988. This permit identifies two outfalls, Discharge 001 which is the principal sewage treatment plant outfall, and Discharge 002, which is the excess flow outfall. Pertinent final effluent limitations for Discharge 001 are 10 mg/l of five-day biochemical oxygen demand (BOD<sub>5</sub>), 12 mg/l of total suspended solids (TSS), 400/100 ml of fecal coliform bacteria, 0.75 mg/l of chlorine residual and 1.5/4.0 mg/l of ammonia nitrogen. Pertinent final effluent limitations for Discharge 002 are 30 mg/l of BOD<sub>5</sub>, 30 mg/l of TSS, and 400/100 ml of fecal coliform. Flora's NPDES Permit does not specify a limit for Ammonia Nitrogen for Discharge 002, nor will the Board impose one as a variance condition.

Flora contends that the bulk of their problem relates to hydraulic overloading of the plant. As respecting BOD<sub>5</sub>, TSS, and fecal coliform, the sewage treatment plant can provide adequate treatment within the parameters of the NPDES Permit when flows do not exceed 1.0 MGD. However, when the plant receives greater flows a "riling" action occurs which washes out the aeration tanks and disturbs the final settling tanks such that solids clog

the tertiary treatment system. At this point it is necessary to bypass the tertiary treatment stage, which also includes bypassing chlorination treatment. Ammonia Nitrogen violations are not related to hydraulic overloading, and occur regardless of the volume of flows entering the plant. (MCP, Section VI). It is believed by Flora that the inability to reduce the amount of ammonia is caused by failure of the system to insert sufficient oxygen. (R. at 78).

Environmental Impact

Flora asserts that it is not causing or contributing to any violations other than 35 Ill. Adm. Code 302.209, 304.120, 304.121, 304.301 and 306.304 by discharging at present levels. Moreover, Flora contends that it will not significantly increase its discharge during the variance period, and, therefore, does not anticipate causing any adverse environmental impact to Seminary Creek. (Pet. p. 3). Flora then refers to the attached stream analysis sheets. (Pet. Exhibit A). These sheets show dissolved oxygen violations on August 30, 1984 (3.4 mg/l) and on October 10, 1984 (4.0 mg/l). In the first violation the upstream reading was far below standard at 2.5 mg/l and, undoubtedly, lowered the downstream value. However, the second violation does not have such an explanation. Thus, of fifty-one dissolved oxygen readings, only one, that of October 10, 1984, is below the standard. In contrast, the ammonia levels downstream appear to be in violation except for perhaps six of the fifty-one readings. The record is silent on any fish kills caused by these ammonia levels. It is probable that fish avoidance occurs since the situation has existed for so long. No bottom samples were taken so it is not known if sludge banks exist because of the overflows. In response, the Agency asserts that based on water quality monitoring data provided by Flora, Flora appears to be contributing to water quality violations by discharging effluent which is not in compliance with effluent limitations.

The Board notes that Flora has no combined sewers in the City and there is an ordinance which prohibits them. However, Flora's WWTP has bypasses because it experiences excessive flows during periods of rainfall and melting snow. Flora has attempted to make good faith efforts to minimize the adverse environmental impact from these excessive flows by providing bar screen and grit removal. The Board also notes that while the record is vague on the extent of the 1984 studies to eliminate infiltration and inflow, it is possible that these excessive flows are caused by downspouts and footing tiles being connected to the sewer system. The Board will require that these inflow sources be disconnected during 1986 and no later than November 30, 1986. Furthermore, the Board notes that while the environmental impacts in the instant petition are not fully analyzed, it appears that no solution exists which can be quickly implemented to reduce the high ammonia levels and that the downstream dissolved oxygen levels are adequate.

### Hardship

Flora asserts that it has been actively working towards achieving full compliance with 35 Ill. Adm. Code 302.209, 304.120, 304.121, 304.301 and 306.304. In 1984, Flora initiated a sewage collection system rehabilitation project to eliminate excess storm water flows. However, Flora contends that approximately 20% of the estimated total flow necessary to prevent hydraulic overloads at the WWTP was removed by this project. Thus, the problems with BOD<sub>5</sub>, TSS and fecal coliform still exist during periods of high flow. (Pet. p. 2). Flora's City Engineer has prepared a Municipal Compliance Plan (MCP) which includes, inter alia; constructing first-flush and excess overflow lagoons with short-term disinfection and ammonia nitrogen removal equipment to insure that NPDES requirements are met upon completion of the project which is estimated to be on or before July 1, 1988 at a cost of approximately \$1.7 million with annual operating expenses of approximately \$360,000. (R. p. 34). Flora asserts that immediate compliance with Board regulations would impose an arbitrary or unreasonable hardship because it needs sufficient time to prepare plans, specifications, cost estimates, acquire the additional land and the necessary financing for upgrading its WWTP pursuant to Section VIII of the MCP. (Pet. p. 2).

The Agency, in its pre-hearing recommendation, contends that in the absence of stated costs to come into compliance, it finds it difficult to specify how much hardship exists. The Board notes that at hearing the stated costs per user for upgrading Flora's WWTP are an additional \$3.23 per month. (R. p. 25). The Agency also asserts that Flora's basic hardship is that the protection afforded it while participating in the construction grant program under 35 Ill. Adm. Code 304.140 will disappear upon completion of the rehabilitation project; while the excess flows sought to be removed from the sewer collection system have not disappeared. The Agency also believes that providing the necessary facilities without grant assistance may prove to be a hardship to Flora which Flora should be able to demonstrate at hearing. (Rec. p. 8).

The Board finds that Flora has demonstrated diligence in working towards achieving compliance with 35 Ill. Adm. Code 302.209, 304.120, 304.301, and 306.304 and that immediate compliance with the above regulations would impose an arbitrary or unreasonable hardship on Flora especially in light of the recently submitted Municipal Compliance Plan. Moreover, Flora has stated that it intends to go through with the project whether it receives assistance or not. Thus, the Board hereby grants Flora its requested relief, subject to conditions.

The conditions which the Board will impose are based on conflicting data and statements presented in Flora's petition and MCP, the Agency's recommendation and testimony presented at hearing. During the variance period, the effluent limitations

for Flora's WWTP Outfall (Discharge 001) shall be 10 mg/l BOD<sub>5</sub>, 12 mg/l TSS, 400/100 ml Fecal Coliform and 25 mg/l Ammonia Nitrogen for flows from zero to 1.0 MGD. In Section VI of Flora's MCP, Flora states that its WWTP "can provide adequate treatment within the parameters of its NPDES Permit when flows do not exceed 1.0 MGD equivalent at the plant." Thus, the Board will hold Flora to these limits, except for Ammonia Nitrogen, since Flora asserts that violations of the Ammonia Nitrogen limitation occur regardless of the volume of flows entering the plant. The Board will not impose a chlorine residual effluent limitation since chlorinator problems are not alleged in the petition. The Board notes, however, that Flora will be required to adequately chlorinate its effluent to meet the fecal coliform limitation.

The effluent limitations for Flora's WWTP outfall shall be 30 mg/l BOD<sub>5</sub>, 36 mg/l TSS, 25 mg/l Ammonia Nitrogen for flows from 1.0 MGD to 1.9 MGD. There will be no limit for fecal coliform as long as this volume of flow does not receive tertiary treatment. At hearing, Flora's City Engineer testified that Flora could live with the above limitations for flows from zero to 1.9 MGD. (R. p. 30-31). However, this conflicts with Flora's prior assertions that the WWTP could meet the NPDES Permit limitations for flows from zero to 1.0 MGD (MCP Section VI and Pet. p. 1). Therefore, the Board has proposed different effluent limitation for flows between zero and 1.0 MGD and flows from 1.0 MGD to 1.9 MGD in an attempt to reconcile this discrepancy.

Lastly, for flows in excess of 1.9 MGD, Flora will be required to provide bar screening and grit removal. Flora's City Engineer testified at hearing that flows in excess of 1.9 MGD are just bypassed through screening and grit removal and discharged through Discharge 002. (R. p. 31-32). Therefore, the Board will require Flora to provide bar screen and grit removal for excess flows discharged through Discharge 002.

Finally, the Board will impose as a variance condition that should any interim deadlines not be met, the variance will terminate. The Board is imposing this condition in response to citizen's fears that Flora will not aggressively pursue construction of the proposed MCP.

This Opinion constitutes the Board's findings of fact and conclusions of law in this matter.

#### ORDER

The City of Flora, located in Clay County, Illinois is hereby granted variance from 35 Ill. Adm. Code 302.209, 304.120, 304.121, 304.301 and 306.304, subject to the following conditions:

1. The variance period shall run from August 23, 1985 to July 1, 1988, except that variance will terminate if any of the interim deadlines listed below are not met.
2. Effluent limitations during variance period:
  - a. For flows from zero to 1.0 million gallons per day, the final effluent limitations for the City of Flora's Sewage Treatment Plant Outfall (Discharge 001) shall be 10 mg/l BOD<sub>5</sub>, 12 mg/l TSS, 400/100 ml fecal coliform and 25 mg/l Ammonia Nitrogen.
  - b. For flows from 1.0 million gallons per day to 1.9 million gallons per day, the final effluent limitations for the City of Flora's Sewage Treatment Plant Outfall (Discharge 001) shall be 30 mg/l BOD<sub>5</sub>, 36 mg/l TSS, 25 mg/l Ammonia Nitrogen with no limit for fecal coliform when this level of flow does not receive tertiary treatment.
  - c. For flows in excess of 1.9 million gallons per day, the City of Flora shall provide bar screen and grit removal for excess flows discharged through Discharge 002.
3. The City of Flora shall submit its final plans and specifications to the Illinois Environmental Protection Agency by September 1, 1986.
4. The City of Flora shall disconnect all downspouts and footing tiles from the sewer system by November 30, 1986.
5. The City of Flora shall construct the necessary improvements to its wastewater treatment plant pursuant to the interim deadlines appearing in Section X and Section XI of its Municipal Compliance Plan which is hereby incorporated by reference.
6. Within 45 days of the date of this Order, the City of Flora shall execute and send to:

Illinois Environmental Protection Agency  
Division of Water Pollution Control  
2200 Churchill Road  
Springfield, Illinois 62706

a certificate of acceptance of this variance by which it agrees to be bound by its terms and conditions.

- 7. This 45 day period will be held in abeyance for any period during which this matter is being appealed. The form of the certification shall be as follows:

CERTIFICATION

The City of Flora hereby accepts and agrees to be bound by all terms and conditions of the Order of the Illinois Pollution Control Board in PCB 85-128, dated February 6, 1986.

City of Flora

By: Authorized Agent

Title

Date

IT IS SO ORDERED.

Board Member B. Forcade dissented.

Board Member J. Marlin concurred.

Board Member R. Flemal abstained.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order was adopted on the 6th day of February, 1986 by a vote of 5-1.

*Dorothy M. Gunn*  
Dorothy M. Gunn, Clerk  
Illinois Pollution Control Board