

ILLINOIS POLLUTION CONTROL BOARD
February 2, 1978

VILLAGE OF WAUCONDA,

Petitioner,

v.

PCB 77-191

ENVIRONMENTAL PROTECTION AGENCY,

Respondent.

OPINION AND ORDER OF THE BOARD (by Mr. Goodman):

This matter comes before the Pollution Control Board upon the petition filed by the Village of Wauconda (Wauconda) on July 13, 1977, seeking variance from Rule 404(f)(ii)(A) of the Water Pollution Regulations, Chapter 3 of the Board's Rules and Regulations. The Agency filed its Recommendation on October 24, 1977. Hearings were held on December 6 and 13, 1977, in the Village of Wauconda, Lake County, Illinois. Several citizen witnesses testified.

Wauconda seeks a variance from Rule 404(f) so that it may discharge effluent containing levels of BOD₅ and suspended solids which exceed those specified while it upgrades its facilities. Wauconda discharges its effluent to Bangs Lake Drain Creek which flows for approximately two miles before discharging to Slocum Lake. Slocum Lake discharges to the Fox River.

Wauconda's sewage treatment facilities are designed for a population load of 8,000 PE, and the current population load is 6,000 PE. Because Bangs Lake Creek is a low flow stream, Wauconda's NPDES Permit and Rule 404(f) required the effluent from its sewage treatment facilities to meet BOD and SS limitations of 4 and 5 mg/l, respectively. However, Wauconda's existing facility is incapable of complying with these limitations. Therefore, in its Petition,

Wauconda proposes to expand and upgrade its treatment plant from 8,000 PE to 12,000 PE. Wauconda contends that, although the upgraded facility will be unable to consistently meet 4/5 mg/l, it will be capable of meeting the 10/12 mg/l standard which would apply if Wauconda secures a Pfeffer Exemption or a variance from Rule 404(f).

Wauconda applied to the Agency for a Pfeffer exemption on April 8, 1977. On May 2, 1977, the Agency denied the application because Wauconda had failed to demonstrate that its effluent would not result in dissolved oxygen water quality violations in Slocum Lake, which is expected to receive the majority of the deoxygenating wasteload. The Agency also indicated its reservations as to whether any type of conceptual analysis could accurately predict the impact of Wauconda's effluent on Slocum Lake without expensive and time consuming field verification. Wauconda has already obtained a variance from the Board to discharge phosphorus in excess of the standards. Wauconda currently contributes fifty-two percent (52%) of the phosphorus load to Slocum Lake. Upon completion of construction, Wauconda will meet a phosphorus limit of 1.0 mg/l and can be expected to contribute 26.3 percent of the total load to Slocum Lake, if discharge remains to the lake. Slocum Lake is nitrogen limited (See Respondent's Ex. 1).

The central issue raised in this matter is whether allowing Wauconda to upgrade and expand its facilities and continue to discharge to Bangs Lake Creek and ultimately to Slocum Lake will cause or contribute to a violation of the dissolved oxygen water quality standard in Slocum Lake. A study performed by U.S. EPA in 1973 and published in 1975 indicates that Slocum Lake is highly eutrophic (Respondent's Ex. 1). A fishery biologist with the Department of Conservation testified during the hearings that there is much blue-green algae in Slocum Lake, that there have been many fish kills and that the predominant fish in the lake is carp, an indication of degraded conditions. Even the carp die off occasionally (R.61-64). Another witness at the hearing with a specialty in fisheries testified as to the eutrophic nature of Slocum Lake (R.71).

The Agency testified at hearing that even meeting a 10/12 mg/l BOD and SS standard, 1.5 ammonia nitrogen standard and 1.0 phosphorus standard will not prevent Wauconda's facilities from causing or contributing to a violation of the dissolved oxygen water quality standard in Slocum Lake (R.52, Sec. 13). The Agency testified that even this reduced amount of nutrient addition will continue to spur algae and other plant growth in the

lake, which is the primary basis for eutrophication and thus depletion of dissolved oxygen (R.52, Sec. 13). Two witnesses testified that even eliminating the sewage treatment plant discharge to the Lake would not solve the eutrophication problem (R.62, 76, Sec. 6).

The Agency outlined the alternatives open to Wauconda as:

1. expand and upgrade the existing treatment plant to meet 10/12 mg/l of BOD and suspended solids respectively, with continued discharge of effluent to Banks Lake Creek and Slocum Lake;
2. construct an interceptor sewer to transport Wauconda's wastewater to the proposed regional Island Lake plant; thereafter, abandon the Wauconda treatment plant;
3. expand and upgrade the existing treatment plant but construct an outfall sewer around Bangs Lake Creek and Slocum Lake with direct discharge to the Fox River.

A fourth alternative, diversion of the overflow from Bangs Lake Creek along with the STP effluent into the Fiddle Lake marsh before it enters the Slocum Lake drain, was presented at the hearing by the Lake and McHenry Council of Governments (LAMCOG). However, the environmental and financial implications of this alternative have not been fully studied, and Wauconda strongly opposes this alternative because of the overflow it could create onto property adjacent to Fiddle marsh and because of potential litigation from persons with riparian rights in Slocum Lake.

A consultant to the Village of Wauconda testified about the difference in cost between the three alternatives outlined in the Agency's Recommendation. He indicated that upgrading and expansion alone would cost Wauconda \$2,125,000 in capital expenditures plus \$85,000 for annual maintenance. Upgrading and expansion plus construction of an outfall sewer around Bangs Lake Creek and Slocum Lake with direct discharge to the Fox River would cost Wauconda \$2,650,000 plus \$90,000 annually for maintenance. Finally, transporting Wauconda's sewage to the proposed regional Island Lake plant would cost Wauconda \$3,560,000

plus \$77,000 annually. The figures are detailed in Petitioner's Exhibits 5, 6 and 7.

The Board agrees that the condition of Slocum Lake requires that Wauconda, at some point, route its effluent to an outfall sewer that bypasses Slocum Lake. The Fox River, although itself polluted, can better handle Wauconda's effluent than can a very shallow, relatively quiescent lake such as Slocum Lake. The Board finds that, based upon Wauconda's present cost estimates, construction of an outfall sewer to a tributary to the Fox River is a more cost-effective means of bypassing Slocum Lake than regionalizing its wastewater treatment with the Island Lake plant.

Wauconda is unable to meet even a 10/12 BOD and SS standard prior to upgrading and expansion of its facilities. Wauconda's discharge Monitoring Reports indicate BOD levels ranging from 19 to 26 and suspended solids levels ranging from 17 to 22. The record herein indicates that Wauconda has been diligent in its efforts to achieve compliance. Therefore, the Board finds that denial of the requested variance would constitute an arbitrary and unreasonable hardship. However, the Board will impose as a condition of the variance a requirement that Wauconda begin and complete construction of an outfall sewer to a tributary to the Fox River as soon as funds become available but in no event later than three years from the date of this Order. The variance will be granted for three years. The Board recognizes that Wauconda's financial situation may prevent it from completing construction of the outfall sewer within three years. Should Wauconda need more time, it can apply to the Board for a variance. The Board will also impose as conditions to the variance a requirement that Wauconda meet interim BOD and SS limits of 30/30 mg/l and that Wauconda, as agreed, install and utilize nitrification equipment, acceptable to the Agency, at its new plant.

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

ORDER

It is the Order of the Pollution Control Board that Wauconda be granted a variance from Rule 404(f) of Chapter 3: Water Pollution, until February 2, 1981, subject to the following conditions:

1. that Wauconda shall immediately begin to upgrade and expand its existing sewage treatment plant;
2. that during the interim until construction is completed, Wauconda shall limit its effluent discharge to 30/30 mg/l BOD and suspended solids, respectively;
3. that upon completion of its upgraded sewage treatment plant, Wauconda's effluent shall not exceed 10/12 mg/l BOD and SS, respectively;
4. that Wauconda install and utilize nitrification equipment, acceptable to the Agency, at its new plant;
5. that Wauconda begin and complete construction of an outfall sewer around Bangs Lake Creek and Slocum Lake, with discharge to an unnamed tributary to the Fox River, as soon as funds become available, but in no event later than three years from the date of this Order;
6. that Wauconda report semi-annually to the Agency on its financial ability to install the outfall sewer identified in paragraph (5) above.
7. Within 45 days of the adoption of this Order, the Village of Wauconda shall execute and forward to both the Illinois Environmental Protection Agency, 2200 Churchill Road, Springfield, Illinois 62706 and the Pollution Control Board a Certification of Acceptance and Agreement to be bound to all terms and conditions of this Order. The 45 day period shall be held in abeyance during any period this matter is being appealed. The form of said certification shall be as follows:

CERTIFICATION

I (We), _____ having read and fully understanding the Order of the Illinois Pollution Control Board

in PCB 77-191 hereby accept said Order and agree to be bound by all of the terms and conditions thereof.

SIGNED _____

TITLE _____

DATE _____

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify the above Opinion and Order were adopted on the 2ND day of February, 1978 by a vote of 5-0.

J

Christan L. Moffett
Christan L. Moffett, Clerk
Illinois Pollution Control Board