

ILLINOIS POLLUTION CONTROL BOARD
April 10, 1975

CENTRAL DU PAGE HOSPITAL ASSOCIATION,)
Petitioner,)
)
)
 v.) PCB 74-364
)
)
 ENVIRONMENTAL PROTECTION AGENCY,)
 Respondent.)

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

This Opinion and Order supplements the previously issued Order of the Board, dated November 22, 1974, and Interim Opinion of the Board, dated January 9, 1975.

The case concerns a Petition for Variance filed on October 9, 1974 by Central DuPage Hospital Association (Hospital) located in the Village of Winfield in DuPage County. The relief sought is from Sections 12 and 39 of the Environmental Protection Act and Rule 927 of Chapter 3: Water Pollution Regulations to allow the Hospital to connect its planned 112-bed hospital addition to the Village of Winfield Sewage Treatment Plant.

On November 22, 1974 the Board issued its Order granting the variance to the Hospital but required the following from the parties:

"2. Within 60 days of the date of this order, petitioner shall provide a study of the condition of the receiving stream (as regards water quality) below the Winfield Sewage Treatment Plant and the environmental effects (especially those resulting from plant bypassing) expected from the grant of this variance.

"3. The Agency shall comment upon the petitioner's response to the Board within 10 days after receipt.

"4. The Board shall retain jurisdiction in this case to consider the possible requirement for holding tanks. The report and comments shall also be directed toward consideration as to the necessity and feasibility for holding tanks."

Responses to the Board's Order of November 22, 1974 were received from the Petitioner and from the Agency. The Agency filed, on December 23, 1974, an Amendment to Recommendation which contained results of two stream biological surveys

conducted on the DuPage River - West Branch to assess the environmental impact of the Winfield Sewage Treatment Plant. These surveys were conducted on December 4, 1974 and September 4-5, 1973 at 4 locations upstream and downstream of the Winfield Sewage Treatment Plant outfall, and the environmental quality of the river and the marsh that receives the sewage treatment plant effluent was assessed. The results and their significance are as follows:

<u>DATE</u>	<u>LOCATION</u>	<u>STREAM CLASSIFICATION</u>	<u>BIOLOGICAL SPECIES SIGNIFICANCE</u>
9/4/73	West Branch - <u>1.5 miles upstream</u> from sewage treatment plant outfall	balanced	Intolerant organisms are many in number and species, or more in number than other forms present.
9/4/73	Marsh - <u>20 yards "downstream"</u> from sewage treatment plant outfall.	polluted	Intolerant forms are absent. Only tolerant forms are present or no organisms present.
9/5/73	Marsh - outlet channel to West Branch.	semi-polluted	Intolerant organisms are few or may not be present. Moderate or facultative organisms may be present.
9/5/73	West Branch - 100 yards downstream from Marsh outlet channel.	balanced	See above.
12/5/74	West Branch - <u>1.5 miles upstream</u> from sewage treatment plant outfall.	unbalanced	Intolerant organisms are fewer in number than other forms combined, but combined with moderate forms, they usually outnumber tolerant forms.
12/5/74	Marsh - <u>20 yards "downstream"</u> from sewage treatment plant outfall.	polluted	See above.
12/5/74	Marsh - outlet channel to West Branch.	semi-polluted.	See above.
12/5/74	West Branch - 100 yards downstream from marsh outlet channel.	unbalanced.	See above.

Based on this work, the West Branch at a point 100 yards downstream from the marsh outlet channel has approximately the same biological quality as it does 1.5 miles upstream of the Winfield Sewage Treatment Plant.

The Petitioner filed its study entitled "Anticipated Water Quality Effects on the West Branch DuPage River Resulting from a Planned Expansion of the Central DuPage Hospital" on January 22, 1975. The study discusses the Winfield Sewage Treatment Plant, estimates the additional wastewater load to be generated by the hospital addition, assesses the present water quality of the West Branch upstream and downstream of the Winfield Sewage Treatment Plant input, and estimates the impact on the stream of the hospital addition. The study also discusses the benefits and costs of a wastewater holding tank at the hospital.

The Winfield Sewage Treatment Plant consists of a contact stabilization plant of 0.5 MGD design capacity followed by a two polishing ponds in series having a total volume of 3.2 million gallons. The raw sewage pumping capacity is 4.04 MGD. Influent flows to the plant in excess of the 0.5 MGD contact stabilization capacity are bypassed to the polishing ponds. At present the plant is hydraulically overloaded in that the 1974 average flow was 1.34 MGD. Bypassing of the contact stabilization unit occurred on 67 days in 1974. Average influent concentrations in 1974 were 56 mg/l (626 lb/day) of BOD and 83 mg/l (928 lb/day) of SS. The sewage treatment plant effluent contained an average of 5.9 mg/l of BOD and 51 mg/l of SS in 1974, the average BOD and SS removal efficiencies being 89% and 39%, respectively.

Petitioner now estimates that wastewater will be generated by the 112-bed hospital addition at a rate of 22,400 gal/day (0.022 MGD) and will contain 24.6 lbs/day of BOD and 29.1 lbs/day of SS. This additional flow represents a 1.6% increase in flow, a 3.9% increase in BOD, and a 3.1% increase in SS to the Winfield Sewage Treatment Plant.

The DuPage River - West Branch near Winfield has a 7-day once-in-10-year low flow of 3.9 MGD. Water quality surveys taken by the Agency and by Petitioner's engineers show little effect of the Winfield Sewage Treatment Plant on water quality. The additional flow of 0.022 MGD generated by the hospital addition represents a 0.6% increase in stream flow during dry weather. During wet weather, when bypassing of the contact stabilization unit occurs, the stream flow is higher so that more dilution is available.

The Petitioner sized a wastewater holding tank at

22,400 gallons, sufficient to hold one day's generated waste. The tank would include an air system to prevent septic conditions and solids settling and a lift station to control the discharge to the sewer system. The capital cost, including engineering, contingencies, overhead, and profit is estimated to be \$35,000.

Based on its study the Petitioner concludes that the additional wastewater from the hospital addition will "not cause any adverse water quality changes in the West Branch DuPage River". Furthermore, it concludes that a holding tank is not recommended because "adverse factors such as possible odor problems, septic sewage, operation and maintenance problems and costs, outweigh the unlikely possibility of improving water quality of the effluent at the Winfield Sewage Treatment Plant".

On February 19, 1975 the Agency submitted its comments entitled "Response of the Environmental Protection Agency. The Agency agrees with the Petitioner's study and conclusions.

The Board concludes from the above information that a holding tank is not necessary in this instance. Although sewage does bypass the contact stabilization unit, it still undergoes some treatment in the polishing ponds, and in fact the BOD was reduced to 5.9 mg/l in the effluent in 1974. The retention time in the ponds is at least 25 hours and ranges up to 136 hours based on 1974 monthly average flows.

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

ORDER

Petitioner, Central DuPage Hospital Association, is not required to install sewage holding tanks.

IT IS SO ORDERED.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify the above Opinion and Order were adopted on the 10th day of April, 1975 by a vote of 4-0.



Christan L. Moffett, Clerk
Illinois Pollution Control Board