

ILLINOIS POLLUTION CONTROL BOARD  
April 1, 1987

IN THE MATTER OF: )  
)  
THE PETITION OF THE CITY OF )  
CLINTON SANITARY DISTRICT FOR ) PCB 85-216  
EXCEPTION TO THE COMBINED SEWER )  
OVERFLOW REGULATIONS )  
)

MR. STEPHEN MYERS APPEARED ON BEHALF OF THE CITY OF CLINTON.

MR. THOMAS LAMKIN APPEARED ON BEHALF OF THE CLINTON SANITARY DISTRICT.

MS. KATHLEEN C. BASSI APPEARED ON BEHALF OF THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY.

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

This matter comes before the Board on a petition for an exception (Pet.) to the combined sewer overflow regulations of 35 Ill. Adm. Code 306.305(a), (b) and (c) filed by the City of Clinton (City) and the Sanitary District (District) on December 30, 1985. By its Order of January 9, 1986, the Board required the City and the District to submit additional information. They responded to this Order with their filings of February 20, 1986 and July 31, 1986. A hearing was held in this matter on October 31, 1986. The last brief was filed on January 14, 1987.

The City has a population of 8, 014, according to the 1980 Census. (R. 48). It is served by a tertiary wastewater treatment plant which is owned and operated by the District. (R. 28). The designed average flow rate of the plant is 1.68 million gallons per day (MGD), but it can handle a peak flow rate of 4.2 MGD. The plant's treatment complies with effluent limitations. (R. 75). Forty-six percent of the sewer system which serves the City consists of combined sanitary and storm sewers. These combined sewers drain approximately 430 acres of storm water. According to the City and the District, there are no significant industrial discharges to the system. (R. 48).

The combined sewers are quite old. Some of the combined sewers date back to the mid-1800's; the most recent were installed in the 1930's. (Pet., Exhibit C, Appendix A, p. 2-7, R. 61). According to the District, the interceptor systems are owned by the District, whereas the collector sewer systems are owned by the City. (R. 37). The ownership of the combined sewer outfalls has not yet been determined. The City and the District will resolve that issue, by agreement, once it is known how the system must be improved. (R. 7, 29).

The City and the District have identified seven combined sewer outfalls which discharge into Coon Creek, Ten Mile Creek, and their tributaries. (R. 49). According to the City and the District, there are an estimated 53 combined sewer overflow (CSO) events to Coon Creek on an annual basis. A lesser number of overflows occur for Ten Mile Creek. (R. 54).

Using data from outfall monitoring of six of the CSO's, the City and the District estimate the following first flush flow volumes for a one-year, 1.2 inch design storm.

<u>CSO Location</u>	<u>First Flush Flow Volume (gallons)</u>
Webster Street	149,6000
Woodlawn	169,796
County Museum	23,188
Main & Isabella	0
ICRR	193,732
Waterworks	626,076

The City and the District readily point out that dry weather sanitary overflows are occurring at the ICRR and Woodlawn locations in addition to the wet weather overflows. Also, water discharges from the Waterworks outfall at times when, in theory, there should not be any discharge. It is suspected that this discharge is the result of an unknown sanitary connection to the outfall. (R. 99).

It is the City's and the District's position that full compliance with the combined sewer overflow regulations is economically unjustified, since they believe that only minimal environmental benefit would result from compliance (R. 30). Improvements necessary to achieve compliance would cost \$2.2 million, according to the City and the District. The proposed plan, Alternative A, is set forth by the City and the District as the only economically justified course of action. (R. 7). Alternative A, which would cost \$324,000, calls for the following improvements:

1. Eliminate the Gibson Street overflow by constructing an eight-inch gravity sewer, thereby, diverting the flow to the Webster Street Lift Station.
2. Plug an overflow pipe at Main & Isabella to prevent storm sewer backups into the combined sewer.
3. Raised buried manholes, which have been covered in the past street pavement, to facilitate sewer maintenance.

4. Raise the weir heights at the ICRR and Woodlawn diversion chambers to eliminate dry weather overflows.
5. Identify and eliminate the suspected sanitary discharges to the Waterworks Park outfall.

(R. 53-54).

Essentially, the plan eliminates two outfalls and attempts to eliminate the dry weather overflows. It is claimed that such improvements will, on an annual average, enable the capture of 13 percent of the first flush volume. (R. 54). With regard to the one-year design storm of 1.2 inches, the system, as improved by Alternative A, would capture 6.5 percent of the first flush. (R. 71).

#### Environmental Impact

As a part of the Phase II study commissioned by the City and the District, an investigation of the receiving streams and surrounding land use was conducted for each CSO (except Gibson Street) in 1985. (Pet., Exhibit C). Results for the Phase II study are presented below as they pertain to each CSO. In addition, the impact that the City and the District's proposed plan, Alternative A, would have on each CSO is discussed. This affords a comparison between the existing environmental problem and the proposed solution.

#### Waterworks Park

Stream Condition: "A black sediment, present on the creek bottom from the discharge pipe to approximately 500 feet downstream of the pipe, ranged from grit to slurry with a strong septic odor. Algae and plant life in the creek seemed to be more highly concentrated in the area containing the black sediment."

Surrounding Land Use: "In the immediate area of the discharge are the Street Department buildings and yard and the City Waterworks....Jaycee Park located approximately 1000 feet downstream of the discharge has tennis, basketball, playground and picnic facilities....[T]he park receives heavy use by small groups."

(Pet. Exhibit C, p. 39)

Proposed Alternative A: Alternative A calls for the identification and elimination of unknown sanitary connections to the outfall. The existing CSC, which discharges to Coon Creek, would not be eliminated.

#### ICRR:

Stream Condition: "A black grit containing glass, plastic items, rag pieces, and other debris lines the creek bottom

from the discharge to at least 500 feet downstream. The black sediment was 18 inches thick at the overflow pipe and decreases in thickness downstream....Sanitary debris were present in the streamside vegetation."

Surrounding Land Use: "A large liquid fertilizer plant is located on the south bank of Coon Creek downstream of the ICRR CSO discharge. A motel, separated from the Creek by a narrow tree line is on the north bank. Further downstream is Madison Street bridge."

(Pet., Exhibit C, p. 38-39)

Proposed Alternative A: Alternative A would attempt to eliminate the dry weather overflows from this outfall. However, this CSO would continue to discharge into Coon Creek.

Woodlawn Avenue:

Stream Condition: "A black sediment averaging 6-inches in thickness, extended from the overflow pipe to approximately 100 feet downstream. The sediment has a very strong septic odor which is noticeable in the area surrounding the discharge pipe. Sanitary debris was observed in shoreline vegetation."

Surrounding Land Use: "A small apartment building and residential home are located near Ten Mile Creek at the Woodlawn Avenue CSO discharge. Further downstream, the channel is surrounded by dense brush and residential homes are located several hundred feet from the Creek. Immediately upstream is the Woodlawn Avenue bridge and the Woodlawn Cemetery."

(Pet., Exhibit C, p. 40)

Proposed Alternative A: Alternative A would attempt to eliminate the dry weather overflows from this outfall. However, this CSO would continue to discharge into Ten Mile Creek.

County Museum:

Stream Condition: "A black sediment about 6-inches thick with a strong septic odor extended from the discharge pipe to approximately 200 feet downstream."

Surrounding Land Use: "The DeWitt County Museum is located approximately 100 feet upstream of the discharge. The Museum grounds surround the discharge along the south bank and extend several hundred feet downstream to U.S. 51. The museum grounds near the CSO discharge receive light usage except during the annual Apple and Pork Festival. The

festival has a 16-year history with 60,000 people attending the 1984 festival. The County Fairgrounds are located along the north bank across from the Museum grounds. The fairgrounds are used yearly for the DeWitt County Fair and the Apple and Pork Festival.

Across U.S. 51, the receiving stream flows through Woodlawn Rest Park. The park has open lawn areas with picnic facilities, playground equipment, and horseshoe pits. The City allows overnight camping at the park which has electrical hook-ups and pit toilets for this purpose."

(Pet., Exhibit C, p. 40-1)

Proposed Alternative A: Nothing in Alternative A would alter this CSO as it discharges into a small ditch tributary to Ten Mile Creek.

Webster Street:

Stream Condition: "Black sediment on the creek bottom and sanitary debris in shoreline vegetation were observed near the overflow pipe. A rock dam about a foot in height crosses the river less than 100 feet downstream of the discharge. The black bottom sediment is much more concentrated upstream of the dam and thins out rapidly on the downstream side."

Surrounding Land Use: "The CSO overflow at Webster Street discharges to Ten Mile Creek directly north of the lift station. Adjacent to the lift station [and downstream of the CSO] is Moore Park with a baseball diamond, basketball court, playground equipment, and large lawn areas. The baseball diamond is used four nights a week for a first and second year girls league. Along the opposite bank, trees and dense brush separate residential homes located several hundred feet from the creek."

(Pet., Exhibit C, p. 41)

Proposed Alternative A: Nothing in Alternative A would alter the discharge into Ten Mile Creek from this CSO.

Main and Isabella:

Stream Condition: "The entire channel bottom has a black color with an obnoxious odor for a distance in excess of 500 feet downstream for [sic] the headwall. Thickness of the bottom sediment is about 12 inches. The channel flow in this area consists almost entirely of flow from the 30-inch tile. No sanitary debris were observed near the headwall."

Surrounding Land Use: "The tile outfall [Goose Creek] is a concrete headwall at the southwest corner of Jefferson and Alexander Streets. Here, the Y.M.C.A. to the south and

Jefferson Street to the north are separated from Goose Creek by trees and brush. About 300 feet downstream, several residential homes are a few hundred feet north of the creek. The creek then flows through the middle of Kiwanis Park where it empties into Coon Creek. Kiwanis Park has large lawn areas, picnic facilities, tennis courts, and playground equipment. The park is frequently used by the public, and the Kiwanis Club holds its annual picnic at this location."

(Pet., Exhibit C, p. 40)

Proposed Alternative A: This outfall into Goose Creek, a tributary of Coon Creek, would be plugged according to Alternative A.

A water quality study was also conducted on behalf of the City and District. Coon Creek and Ten Mile Creek were sampled during the spring and summer of 1986. Water samples from points upstream and downstream of the Clinton CSO's were taken from the creeks during two rainstorm events and two dry days. One storm event on April 30, consisted of a 1.34-inch rainfall over a 1.5 hour time period. The other storm event, on June 5, produced 0.81 inches of rainfall over a 5.5 hour time period. The study reached the conclusion that the discharge from the CSO's did not significantly impact upon the creek's water quality. Specifically, the study states that upstream sources, such as farms, contribute more significantly to the water quality standard exceedances than do the CSO's. The creeks greatly exceed the fecal coliform standard upstream and downstream of the CSO's. The study also states that the high BOD<sub>5</sub> and total suspended solids loading in the creeks are primarily caused by conditions upstream and are only increased to an insignificant extent by the CSO's. (R. 55-56).

It is the Agency's position that the results of the water quality study are not representative. When the storm event samples were taken, the peak rates of the rainfall were 1.29 inches per hour and 0.46 inches per hour. (R. 107). The storm samples were taken when the creeks had a depth of 4 1/2 to 5 feet. The normal depth is approximately 6 inches. Such an increase in depth only occurs during "a large rainfall," according to the District. (R. 60). However, the City and District study shows that CSO's can be triggered by as little as 0.2 inches of rain. In addition, the seven-day, ten-year low flow for the creeks is zero flow. Consequently, the Agency asserts that under normal conditions, unlike the conditions when the study's samples were taken, there is not much dilution of the CSO's by the creeks. (R. 106).

The Agency claims that even the dry weather samples are not representative, because they were taken after days of extensive rain when the creeks might be abnormally high. The dry weather samples were taken on July 15 and July 18, 1986. Records kept by

the District indicate that for the period from July 8 to July 14 the total rainfall was measured at 4.0 inches. (Exh. #7). The Agency points out that the water quality study did not mention anything of the flow rates of the creeks. (R. 107).

It is the Agency's position that normally there is little dilution of the CSO's by the creeks. The Agency asserts that the extensive sludge deposits and sanitary debris caused by the CSO's create aesthetic and public health concerns as well as violate 35 Ill. Adm. Code 302.203, which prohibits such deposits. In addition, the Agency believes that unless high dilution conditions exist, these deposits would cause water quality violations, particularly with respect to the dissolved oxygen standard. (R. 109).

The Agency concludes that the City and the District should not be granted an exemption to the CSO regulations. According to the Agency, the proposed plan does nothing to remedy the CSO problem, but rather it merely seeks to eliminate the dry weather overflows which the Agency believes should have been eliminated long ago. The Agency believes that until these dry weather overflow problems are resolved, the extent of environmental impact caused by the CSO's cannot be accurately defined. (R. 104). The Agency states that the City and the District are not entitled to permanent relief from CSO regulations because they have not shown the requisite minimal impact on the receiving streams. (R. 181).

#### Economic Impact

The City and the District adamantly assert that they cannot afford the cost for full compliance with the CSO regulations. As stated earlier, improvements to achieve compliance were estimated by the City and the District to cost \$2.2 million. The City and the District claim that the Clinton area has experienced a downward economic trend since 1979. The average unemployment rate for the past five years was estimated, at hearing, to be 14 percent. (R. 23-24). Opportunities for employment have declined in the past few years due to the shutdown of several area industries. (R. 9). In addition, Illinois Power, which had previously employed many local residents has laid off many workers now that construction on the nearby nuclear power plant is complete. (R. 15). The nuclear power plant is outside the City's boundaries, consequently the City receives no tax revenues from the plant. (R. 10).

The area had hoped that Clinton Lake, constructed by Illinois Power for its nuclear plant, would bring in outside dollars due to its recreational potential. However, this potential has not been realized. (R. 21).

The City is currently at the maximum level allowed on its corporate levy. Real estate tax proceeds have dropped due to a five percent lowering of the City's assessed valuation in the

last quadrennial assessment. (R. 19). The water and sewer systems are presently operating at a deficit. (R. 39).

In addition to the overall poor economic atmosphere of the area, the City and the District claim that if improvements are made, the costs will likely have to be borne solely by those living on the combined sewer lines. The City and District expect legal challenges from City residents who live on separated storm and sewer lines as well as those who are not City residents and are served by the District. The City and the District anticipate that such parties will successfully advocate the position that combined sewer residents should pay for the combined sewer improvements since they alone benefit from an improved system. (R. 43, 45).

The City and District claim that there are 2,000 households on the combined sewer lines, with a median income of \$13,000. (Pet. p. 7). The Agency uses 1.5 percent of the median income as an affordability guideline with respect to sewer project costs. Using 1.5 percent of the median income of only the combined sewer residents, the maximum capital which could be financed by this group, at 8 percent for 20 years, would be \$850,000. (Pet., p. 7).

The Agency counters that liability for noncompliance with the CSO regulations would rest with the City and/or the District, not with the particular residents who live on the combined sewer line. Consequently, if the City or District choose to pass the costs of improvements on to the users, then such costs should be passed on to all the users -- not just a select group. Therefore, the Agency asserts costs should be calculated on the basis of 3,120 users with a median household income of \$16,310 (R. 11). Using 1.5 percent of this median income and this number of users, over \$2.8 million of capital could be financed at 8 percent interest for 20 years. (Exh. #5, p. 9).

### Conclusion

It is apparent that the Clinton area is presently experiencing difficult economic times. The Board is not unsympathetic to the City and the District's position that compliance with the CSO regulations would be costly. However, the Board may not grant an exception solely on the basis of economic considerations. An exception must be justified upon environmental considerations.

It is obvious from the record that the CSC's and dry weather overflows have created extensive deposits of sludge and sanitary debris in Ten Mile Creek, Loon Creek and Goose Creek. The problem is further compounded by the fact that these outfalls are primarily located near public parks and residential areas. The City and the District state that area residents are well aware of the CSO problem and do not use the creeks. Even if this is true, it does not lessen the seriousness of the creeks' degradation.

The City and the District claim that their water quality study demonstrates that the CSO's do not contribute significantly to the creeks' overall poor water quality. In response, the Agency has raised some valid points questioning whether the water samples were representative of normal stream conditions. However, even if the conclusions of the water quality study are correct, the sludge deposits alone constitute a significant adverse environmental impact.

The proposed plan of the City and the District merely attempts to eliminate the dry weather overflows and to facilitate better maintenance of the sewer system; it does not address the CSO problem. If an exception is granted and the proposed plan is implemented, five CSO's will continue to discharge to Coon Creek and Ten Mile Creek. The Board concurs with the Agency in finding that the proposed plan merely calls for improvements to eliminate dry weather overflows which should have been completed years ago. The record indicates that the City and District have been aware of their CSO problems since 1979. (Exh. #6). Yet, eight years later they propose a plan which fails to confront the CSO problem. The City has delayed addressing both its dry weather flows and CSO to the point that a certain amount of its claimed hardship is self-imposed.

Although the exact extent to which the dry weather overflows have contributed to the sludge deposits is unknown, eliminating all the dry weather overflows will not solve the sludge problem. Dry weather overflows have been reported to occur at the ICRR and Woodlawn Outfalls and possibly at the Waterworks Park Outfall. Even assuming that these dry weather outfalls are the sole contributors to the sludge deposits in those areas, which is likely an incorrect assumption, two CSO's, Webster Street and County Museum, would continue to deposit sludge in Ten Mile Creek even after the proposed plan is implemented. The fact that there are extensive sludge deposits at Webster Street and County Museum, where dry weather overflows have not been reported, further indicates that the wet weather CSO's, not just the dry weather overflows, contribute significantly to the deposits of sludge and sanitary debris found in the creeks at all CSO locations. As stated above, the proposed plan would do nothing to prevent the continuing discharge of wet weather CSO's.

After consideration of the record in the context of the factors set forth in Section 27(a) of the Illinois Environmental Protection Act, the Board finds that the City and the District have not justified a CSC exception. Therefore, the Board denies the request for an exception to 35 Ill. Adm. Code 306.205(a),(b) and (c).

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

ORDER

The Board hereby denies the City of Clinton and the Clinton Sanitary District an exception to 35 Ill. Adm. Code 306.305 (a), (b), and (c).

IT IS SO ORDERED.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order was adopted on the 1<sup>st</sup> day of April, 1987, by a vote of 6-0.

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