

# WASTE WATER

A POLICY ELEMENT  
OF THE  
COMPREHENSIVE DEVELOPMENT PLAN



Monroe County, New York

RESOLUTION ADOPTING WASTEWATER ELEMENT OF THE COUNTY  
COMPREHENSIVE DEVELOPMENT PLAN

Intro. No. 102

RESOLUTION NO. 90 OF 1979

Adopting Housing Policy, Environmental, Transportation, Wastewater, and Land Use Elements of Monroe County Comprehensive Development Plan; Limiting Implementation Thereof.

WHEREAS, the Monroe County Charter provides for the adoption and annual review and update of an official comprehensive development plan, or one or more parts thereof, for the County of Monroe; and

WHEREAS, the Monroe County Legislature recognizes that growth and development are desirable and will occur in Monroe County; and

WHEREAS, the Monroe County Legislature recognizes a need to provide a comprehensive development plan as a guide to growth and development in Monroe County so that, to the greatest extent possible, decisions about where development will occur will be made with full knowledge as to the costs which will accrue as a result of such development; and

WHEREAS, it is the intent of the Monroe County Legislature, in adopting such a plan, to:

- (1) keep down the cost of development to Monroe County taxpayers by encouraging development to concentrate in areas which already have the public services needed to support such development; and
- (2) stimulate economic development, revitalize the City of Rochester and other urban areas of the County, and protect the environment; and
- (3) set policies with which County government will conform in its actions that affect development of the County; and

WHEREAS, the adoption of such a plan, or one or more parts thereof, does not transfer land use control powers or any other powers of local government to the County; and it is not the intent of the Monroe County Legislature, in adopting such a plan, to effectuate any such transfer of land use control powers or any other powers of local government; and

WHEREAS, the Monroe County Legislature has heretofore adopted in principle the following elements of the County comprehensive development plan: (1) Housing Policy Element, adopted October 24, 1978 by Resolution No. 445 of 1978; (2) Environmental Element, adopted November 16, 1978 by Resolution No. 487 of 1978; (3) Transportation Element, adopted November 30, 1978 by Resolution No. 527 of 1978; (4) Wastewater Management Element, adopted January 18, 1979 by Resolution No. 2 of 1979; and (5) Land Use Element, adopted February 6, 1979 by Resolution No. 23 of 1979;

Now, Therefore, Be It Resolved by the Legislature of the County of Monroe, as follows:

Section 1. Pursuant to Article VII, Section 706 of the Monroe County Charter, the following parts of the comprehensive development plan for the County of Monroe are hereby adopted:

- (1) Housing Policy Element, Draft 2, dated August, 1978;
- (2) Environmental Element, Draft 2, dated September, 1978;
- (3) Transportation Element, Draft 2, dated September, 1978;
- (4) Wastewater Element, Draft 2, dated December, 1978;
- (5) Land Use Element, Draft 3, dated January, 1979, as amended.

Section 2. Inasmuch as this Body is currently reviewing extensive proposed revisions of the Monroe County Charter, including proposed revisions to Article VII thereof relating to County planning functions, the implementation of the above elements of the County comprehensive development plan shall be limited, pending final determination of said proposed Charter revisions, to those actions and projects initiated or financed by the County of Monroe; and those actions, projects or other matters currently reviewed or permitted by the County of Monroe, its departments or other agencies, pursuant to authority other than that contained in the present Section 706 of the Monroe County Charter.

Section 3. This resolution shall take effect immediately.

Planning and Economic Development Committee, February 27, 1979 - CV: 5-1

File No. 78-097

# **WASTEWATER**

**A Policy Element of the  
County Comprehensive Development Plan**

**December 1978**

**prepared by  
Monroe County Department of Planning**

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## SUMMARY

This draft element of the revised Monroe County Comprehensive Development Plan suggests wastewater management policies for adoption by the Monroe County Legislature. The policies focus on the disposal of household sewage through public sewer and private on-site sewage disposal systems.

Important wastewater management decisions are being made by the county without overall policy guidelines set by the County Legislature. Included are decisions to expand the Pure Waters system and to approve of private on-site sewage disposal systems. The purpose of this report is to suggest policy guidelines for these decisions.

The policies are intended to serve three major goals: (1) eliminate problems of pollution and public health, (2) minimize the costs of sewage disposal, and (3) provide for wastewater disposal in a way which will encourage a desirable pattern of metropolitan growth and hold down the cost of providing other public services. Where these goals come into conflict with each other, the policies try to strike an appropriate balance.

To achieve these goals the policies set the following basic directions:

1. They call for development to be concentrated in the large area of the county which is served by public sewers.
2. The policies call for keeping development at a low density in areas served by private on-site sewage disposal systems to prevent pollution problems and to keep down the demand for extending public sewers to these areas. To help achieve this the policies direct county agencies to assist towns in rezoning unsewered areas and to try to keep down densities in their review of private development proposals. They also call for an evaluation of county regulations on on-site sewage disposal to see if they can more effectively achieve the goals cited above.
3. Where areas not served by the Pure Waters system are facing problems of pollution or public health, the policies call for a thorough analysis of

alternatives before Pure Waters interceptors are extended to these areas. The decision should be based on a determination of which alternative best meets the three goals indicated above. Among the alternatives to be considered are the upgrading or expansion of municipal treatment plants, the building of new local treatment plants, and the improvement of private on-site sewage disposal systems.

4. Still other policies call for evaluating new sewage disposal technologies and providing for the multiple use of sewer facilities and associated lands.

The report concludes with a brief listing of the kinds of actions which would have to be taken by the county and by local governments to implement the policies. The listing serves to illustrate some of the effects that would result from the adoption of the policies by the Monroe County Legislature.

## INTRODUCTION

This report is concerned with domestic wastewater management, or the collection, treatment, and disposal of sewage from homes. It focuses on the effects of domestic wastewater management systems of the general land use development pattern. In Monroe County wastewater may be disposed of through public sewer systems or through private on-site sewage disposal systems.

This report, which was prepared with the cooperation of the staffs of the Monroe County Division of Pure Waters and Monroe County Health Department, contains goals, objectives, and policies to deal with the effects of sewage disposal on the land use pattern. It does not address policies on all of the other facets of collection, treatment, and disposal of wastewater.

The collection, treatment, and disposal of wastewater is a complex technical area. New problems in wastewater management arise everyday. Included are the problems of how to deal with the presence in sewage of heavy metals (such as cadmium) and other toxics, the role of stormwater removal as it affects wastewater, the impact of federal pretreatment requirements, and the application of new sewage treatment methods. These and other problems will continue to be dealt with by the agencies responsible for the technical aspects of collections, treatment, and disposal of wastewater, the Division of Pure Waters and Health Department.

This report should thus be viewed as the first step toward developing a body of policy on both the land use and technical aspects of wastewater management. As general policies are developed in these more technical areas, they should be incorporated into this plan. Finally, this report includes, by reference, the policies of the Division of Pure Waters which are contained in the Pure Waters Master Plan Report, January, 1969, and which has been adopted by the Monroe County Pure Waters Agency.

Wastewater management is an important concern to Monroe County government. The county has developed a multimillion dollar Pure Waters system to handle wastewater, and the County Legislature is still confronted with making very costly decisions on the improvement or expansion of this system. The County Health Department is confronted daily with the responsibility of making important

decisions on whether to approve applications for private on-site sewage disposal systems.

Despite the importance of these decisions, they are now being made in the absence of overall policy guidelines set by the County Legislature. The purpose of this report is to suggest such guidelines.

The policies are intended to serve three major goals of a wastewater management system. The first goal is to dispose of domestic sewage in an environmentally safe manner, so that we may prevent pollution of our waterways and meet established health standards. The second goal is to dispose of domestic sewage in the most cost-effective way. The third goal is to develop a wastewater management system which will have positive effects on land use development and the costs of providing other public services. Perhaps more than any other public facility, a metropolitan sewer system affects the pattern of land use development. The extension of public sewers into inappropriate areas can result in development which is destructive of farmland and environmental resources and which is costly to serve with other public facilities. Clearly our wastewater management policies must take into account such effects and must be designed to serve broad public purposes in the management of metropolitan growth.

These three goals often come into conflict with one another. For example, in developing a wastewater management system which maximizes the goal of eliminating water pollution, one would have to compromise on the goal of developing the least costly system. The policies in this report are intended to strike an appropriate balance among the three goals.

This report begins with a summary of the Monroe County Pure Waters program and the procedures followed in regulating private on-site sewage disposal systems. It then discusses some of the concerns which must be addressed in wastewater management policies. Next it sets forth goals, objectives, and policies to guide wastewater management decisions in Monroe County. The final section lists the actions which will be required to implement the goals, objectives, and policies.



## MONROE COUNTY PURE WATERS PROGRAM

### Purpose

In 1967 the Monroe County Legislature established the Monroe County Pure Waters Agency. This agency was charged with the responsibility for developing a water quality management plan for the county. In a study of wastewater disposal needs in the county, it was determined that water pollution could be controlled more effectively and economically through an areawide sewer system than through the continued operation of municipal treatment plants.<sup>1</sup> The study found that many of the municipal plants were undersized and poorly operated and that they were discharging partially treated effluent into creeks which did not have enough flow to absorb the wastewater. The study determined that major investments would be required to upgrade and continue to operate these plants and that it would be cheaper in the long run to build an areawide sewer system. The areawide system would also have the advantage of providing more reliable service.

The Pure Waters Agency completed its water quality management plan in 1969 and recommended the creation of the Division of Pure Waters to carry out the plan. The plan was designed to serve two main objectives: (1) to restore and preserve the water resources in the county in accordance with the stream quality standards established by the state<sup>2</sup> and (2) to provide a system of sewage collection, treatment, and disposal that would promote economic development.

### Present Status

As recommended, the Division of Pure Waters was set up to carry out the program. The program has had two main areas of emphasis.

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1. Monroe County Pure Waters Agency, *Pure Waters Master Plan Report*, January, 1969, p. 105.
  2. See Monroe County Department of Planning, *Wastewater Management Background Review Report, Draft 1, Appendix*, June, 1978.

The first area of emphasis has been in the suburbs, where an areawide system of interceptor sewers has been constructed to receive sewage which previously went to several municipal treatment plants, taking it instead to one of three large Pure Waters treatment facilities. This has permitted the gradual closing of many of the small municipal treatment plants.<sup>3</sup> With the recent completion of the Irondequoit Creek interceptor and the closing of most municipal plants in the Irondequoit Pure Waters District, most of the major improvements planned for the suburban area have been completed. There still remain, however, some other improvements, such as the Spencerport interceptor and several regional extensions, which are planned for the future.

The second area of emphasis has been in the City of Rochester, where improvements are planned for the city's antiquated sewer system. The improvements include extensive modifications to the combined sanitary and stormwater sewer system, from which polluting overflows are periodically discharged into the Genesee River and Irondequoit Bay. Due to the complexity of the problem in the city, the improvements which have been planned are less than one-half completed, and major work remains to be undertaken in the future.

#### Effectiveness in Meeting Its Objectives

Through the efforts of the Division of Pure Waters, Monroe County has come a long way in the last decade in protecting public health and eliminating pollution. As noted earlier, there are two main objectives to the Pure Waters program: (1) to clean up the waters of Monroe County so that they can be used again for recreation, and (2) to provide enough sewer capacity to enable increased economic development in the county.

Based on the status of the program to date, the Division of Pure Waters is meeting its objectives. According to the Monroe County Health Department, there has been measurable improvement in the water quality of creeks within the county as a result of the Pure Waters program.<sup>4</sup> This is particularly true of the creeks in the

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3. *Ibid.*

4. *Ibid.*; Monroe County Environmental Management Council, *An Approach to Environmental Management in Monroe County, 1976*, p. 11-68.

northwestern part of the county, where most of the planned improvements have been completed. Also, an initial assessment has indicated improvement in the water quality in the Irondequoit Creek watershed since the opening of the Irondequoit Creek interceptor early in 1978. The Pure Waters system has also significantly increased public sewer capacity in Monroe County, thereby eliminating an obstacle to efforts to promote economic development. It is estimated that the current system can serve approximately one million persons, which would represent a one-third increase over the present population. In addition to these achievements, the Division of Pure Waters has made several other accomplishments. Some of them are listed below:

All three Pure Waters sewage treatment plants provide at least secondary treatment of sewage, with the VanLare plant, one of the largest of its kind in the United States, having the capacity to provide tertiary treatment. Few regions of the country have achieved this overall level of sewage treatment.

Ontario Beach at Charlotte is open again for swimming due to the efforts of Pure Waters in cleaning up the streams that enter Lake Ontario. Completion of the combined sewer system in the City of Rochester should reduce the remaining sources of pollution that still require the beach to be closed on occasion. (In the meantime, the County Health Department is using a computer program to determine in advance the days during which the beach should be closed due to prospective increases in pollution arising from adverse weather conditions.)

Certain sport fish are beginning to thrive again in waters of Monroe County.

Pure Waters has developed an effective maintenance program in the city to help reduce the overflow problem.

A computer program has been developed by Pure Waters to determine the impact of its program on the water quality of key sections of the Genesee River and certain other waterways.

Pure Waters has been able to achieve these accomplishments within the projected costs of the program. For example, in the Irondequoit Bay Pure Waters District, projected costs per customer were \$55 and the actual cost is \$46 for 1978. (This cost is viewed as being at its highest point, and Pure Waters anticipates that the cost will begin to decrease in the coming years.)

## REGULATING PRIVATE ON-SITE SEWAGE DISPOSAL SYSTEMS

It is estimated that in 1977 25 percent (about 60,000 households) of the households in Monroe County used private on-site sewage disposal systems. Most of these systems depend on soil conditions to treat and dispose of the liquid portion of sewage.

Currently the construction or repair of all on-site sewage disposal systems must be approved by the Monroe County Health Department. Proposed systems which are a part of subdivisions according to the New York State definition (basically the division of a piece of land into five or more lots) are regulated under Article III of the County Sanitary Code. Article IIA, which was adopted in 1974, regulates proposed systems which are not a part of subdivisions. County sewage disposal regulations must be at least as restrictive as those contained in the State Sanitary Code, which is administered by the State Health Department.

The last 10 to 15 years have witnessed a significant improvement in the performance of newly installed and repaired on-site sewage disposal systems in Monroe County as a result of the efforts of the Monroe County Health Department. Currently, the Health Department is approving the construction or repair of all on-site systems in the county. Proposed systems which are a part of subdivisions according to the New York State definition (basically, the division of a piece of land into five or more lots) are regulated under Article III of the County Sanitary Code. In addition, in the mid-1960's, the Health Department began inspection and approval of on-site systems for single-lot developments in the town of Henrietta at the town's request. Similar voluntary inspection programs began in other towns, leading to local adoption of the Health Department's standards for on-site sewage disposal systems. In 1974, Article IIA of the County Sanitary Code made the review and approval of all on-site system development mandatory. Article IIA also required Health Department review and approval of all repairs to on-site systems. The Health

Department has also received permission from the State Health Department to vary certain statewide regulations and to allow for modifications to standard on-site sewage disposal system designs in order to accommodate the unique soil conditions in Monroe County.

To supplement the provisions of the County Sanitary Code, the County Health Department has set additional policies governing private on-site sewage disposal. The County Health Department uses the standards set forth by the State Health Department,<sup>5</sup> but, as noted above, it allows for variations to take into account unique soils conditions. In areas of good soils, the County Health Department generally approves conventional on-site systems for residential use.<sup>6</sup> These systems consist of septic tanks and subsurface leaching areas which serve to filter and dispose of the sewage effluent. In areas of unfavorable soils the County Health Department may approve an alternative system known as the "fill" or "mound" system. This system is similar to a conventional system except that the leaching area is placed on top of pervious fill material (sand) so that adequate soil percolation can take place and sufficient separation can be achieved between the leach area and groundwater or bedrock. The use of the "fill" system has enabled development to occur in large areas of the county which have poor natural conditions for the operation of on-site sewage disposal systems.

## WASTEWATER MANAGEMENT CONCERNS

The policies in this report address a number of major concerns in wastewater management. This section briefly discusses these concerns. Where the concerns have a geographical focus, the area of focus is illustrated in Figure 1. Although the figure

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5. State standards for private on-site sewage disposal systems are given in the publication *Waste Treatment Handbook, Individual Household Systems* (commonly referred to as the "Blue Book"), prepared by the New York State Department of Health.
  6. Good soils are those which provide adequately for the percolation or filtering of septic tank effluent. The County Health Department undertakes a percolation test to measure the suitability of the soil for on-site sewage disposal system operation. The percolation test rate is generally the time it takes for one inch of water to percolate into the soil. Conventional on-site sewage disposal systems are usually allowed on soils with percolation rates of 45 minutes or less. Soils which have slower rates usually will require nonconventional sewage disposal systems. In addition to good soils, two other factors are important in determining the suitability of an area for on-site sewage system operation: sufficient depths to bedrock and groundwater.

is somewhat schematic, it will help the reader not only in understanding the concerns discussed in this section but also in determining the geographical areas affected by the policies set forth later.

#### Making the Most of What We Have (Area 1)

The present Pure Waters sewer system has surplus capacity. Indeed it has enough capacity to serve more than one million people, providing for an increase of over 33% in the total county population. Certain municipal sewer systems (which are identified as Area 3 in Figure 1) and the Town of Webster system also have surplus capacity. With this surplus capacity it makes sense to concentrate future development in areas served by public sewers. Let's consider why it makes sense.

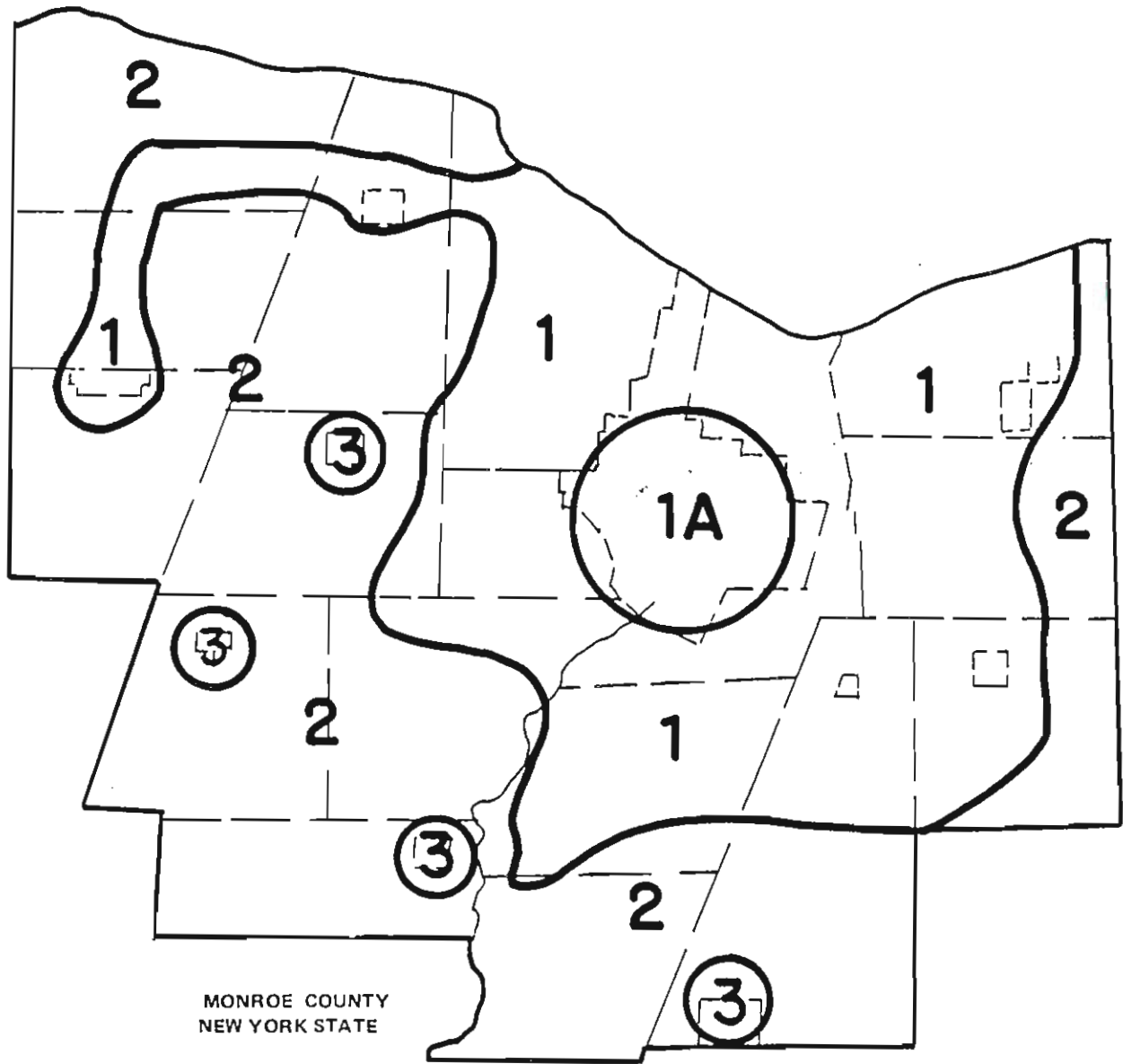
First, County Health Department and Pure Waters officials agree that public sewer systems do a better job in getting rid of wastewater than private on-site sewage disposal systems. To work well on-site sewage disposal systems require an unusual combination of favorable circumstances: good soils, adequate depth to bedrock and the water table, proper installation and maintenance, even favorable weather conditions. Although many on-site sewage disposal systems operate effectively, from a public health standpoint, public sewer systems are more reliable than private on-site sewage disposal systems because they provide a better means of controlling and treating effluent. The objectives of protecting public health and preventing pollution are better served by concentrating development in sewered areas.

Concentrating development in areas served by public sewers will also help to keep down the cost of sewer and other public services. Because present sewer systems have surplus capacity, the per capita costs will be kept down as more homes are built to use these systems and share the fixed capital costs. Further, if major development occurs outside the present service areas, it will create pressures to extend the Pure Waters system, as well as other public services, to the new development areas. The per capita costs of extending public facilities into new service areas are often very high because of the sparse pattern of development in these areas.

Finally, by concentrating development in areas presently served by sewers, we can help to protect agricultural areas from urban sprawl. The present system, by and

FIGURE 1

WASTEWATER MANAGEMENT AREAS



MONROE COUNTY  
NEW YORK STATE

- |         |   |
|---------|---|
| AREA 1  | Served by existing or approved Pure Waters and Webster sewers |
| AREA 1A | City of Rochester   |
| AREA 2  | Unsewered area  |
| AREA 3  | Municipal sewer area  |

large, lies outside agricultural areas and can accommodate growth without disrupting farmland.

### Avoiding Problems in Unsewered Areas (Area 2)

While it makes sense to concentrate development in sewered areas, present regulations fail to achieve this objective. Development at suburban densities (commonly on one-half-acre lots) is generally encouraged by land use regulations in unsewered areas of the county. Such development is generally appropriate only in those unsewered areas where plans have been made to extend sewer services.

There are two major kinds of regulations affecting the density of development in unsewered areas: County Health Department regulations and town zoning ordinances. We will first consider the Health Department regulations, then the town zoning ordinances.

The County Health Department regulates private on-site sewage disposal systems to prevent water pollution and protect public health. When the Health Department reviews a development proposal, its first concern is to determine whether the development can be economically served by a sewer. If it can, the Health Department will require a sewer connection. If it cannot, the Health Department may allow the development to be served by a private on-site sewage disposal system.

The Health Department must base its approval of on-site sewage disposal systems on the public health concerns in the State and County Sanitary Codes. Thus there are legal limits to the authority of the Health Department to keep development at a low density in unsewered areas. The Health Department cannot require large lot sizes for reasons not immediately related to the protection of public health. This constraint limits the potential of using Health Department regulations to concentrate development in sewered areas and to keep development at a low density outside these areas.

Within the limits of protecting public health, however, the Health Department can set large minimum lot size requirements where on-site sewage disposal systems are proposed for areas of poor soils. Indeed within the past few years the Health



Department has made its requirements more restrictive in such areas. It is now requiring lot sizes of at least five acres where on-site sewage systems are proposed for soils with percolation rates exceeding 60 minutes per inch. In addition, it is requiring for such soils at least 100 feet of separation between the leachfield and the nearest side lot line.

Town zoning ordinances offer more promise in controlling the density of development. Through zoning ordinances towns can require large minimum lot sizes in unsewered areas to meet a variety of public purposes, including protecting public health, preserving farm land, and keeping down the demand for the extension of urban services into rural areas.

Despite this authority, most towns have zoned their rural land for suburban densities, commonly allowing single-family homes on one-half-acre lots. The major exceptions are Chili, which requires a minimum lot size of 20 acres for its agricultural areas, and Mendon, which sets a 5-acre minimum lot size for certain areas.

The ineffectiveness of land use regulations in keeping down densities in unsewered areas is of major concern in the development of county wastewater management policy. As we have seen, the people of Monroe County can pay a high price for the failure of public policy to come to grips with the rural development problem. They pay the price in many ways: through the loss of farmland and open space, through the costly extension of sewers and other public services to outlying development areas, through the higher costs of sewer services in the areas which have been bypassed by development, through the improvement of rural highways to meet the new demands, through the problems of water pollution and public health which can result from rural development at suburban densities.

What should be the focus of our county policies? Clearly they must deal with both the County Health Department regulations and town zoning ordinances.

As indicated earlier, the County Health Department has the authority to make its regulations more restrictive if this is needed to protect public health. Whether the regulations should be made more restrictive is one of several topics to be covered in

a study which will soon be undertaken by the Health Department and the Environmental Management Council. The study will evaluate the effectiveness of county sewage disposal requirements.

Another area of concern is the performance of existing on-site sewage disposal systems. Except where there have been complaints of failing systems, the Health Department does not inspect existing systems. It has the authority to inspect all existing systems, but it does not have enough staff. Consideration should be given to setting up a program of inspecting existing on-site sewage disposal systems. The program could initially be set up on a trial basis. If after a few years it is found that the program is worthwhile, it could be expanded into an ongoing program.

Monroe County, of course, does not have authority over town zoning. The county, however, should set policies to encourage towns, on their own initiative, to revise their zoning regulations, setting larger lot-size requirements for development in unsewered areas.

#### Meeting the Needs of Outlying Areas (Including Area 3)

There are areas not served by the Pure Waters system which are today facing problems in wastewater disposal or may in the future face such problems. Included are two types of areas: areas served by small municipal treatment plants and areas served by on-site sewage disposal systems. The areas served by treatment plants are designated as Area 3 in Figure 1. The areas served by septic systems are designated as Area 2.

A major objective of the Pure Waters program has been to extend sewer service to areas where there are problems of water pollution. One of the most important tasks of the County Comprehensive Development Plan will be to refine this objective into an effective set of policies.

In setting these policies we must recognize that there are alternatives to regional sewer extensions in meeting the needs of problem areas. In problem areas served by municipal treatment plants alternatives are to upgrade or expand the capacity of these plants or insure proper operation of plants that already have adequate capacity. In problem areas served by private on-site sewage disposal

systems the alternatives are to build small-scale collection and treatment facilities or to set up sanitary maintenance districts to maintain or improve on-site sewage disposal systems. (Sanitary maintenance districts are similar in purpose and operation to sewer and water districts.) Both of these alternatives will be evaluated in the sewage disposal study to be undertaken by the Health Department and the Environmental Management Council.

In evaluating whether a Pure Waters interceptor should be built to serve a new area, consideration should be given not only to the cost of the interceptor and the need to eliminate pollution but also to the effect of the interceptor on land use development. Interceptors have major effects on the pattern of development, particularly in an area like Monroe County, where most of the soils are poorly suited for on-site sewage disposal. Interceptors, therefore, should be designed to serve broad public objectives in the management of metropolitan growth. The Federal Environmental Protection Agency has recognized this and is carefully examining all alternatives before providing funds for an interceptor which goes through an agricultural or rural area.

#### Completing the City Program (Area 1A)

While most of the Pure Waters facilities planned for suburban sewer districts have been built, the program for the City of Rochester is less than one-half completed. The county's wastewater management policies must emphasize completing the city program.

Much of the program for the city involves the construction of storage-conveyance tunnels to intercept untreated sewage overflows. These overflows result from an antiquated combined sanitary-storm sewer system which does not have sufficient capacity to carry sewage during periods of heavy storm-water runoff. The overflows now discharge into the Genesee River and Irondequoit Bay. Once the tunnels are completed, they will generally store the sewage and gradually release it to the VanLare plant for treatment.

Why are we concerned with completing the city program? One reason, of course, is that untreated sewage overflows are a serious cause of pollution in

Irondequoit Bay, the lower Genesee River, and the Rochester Embayment. Beyond this, the program must be completed to support efforts to revitalize the City of Rochester. With an antiquated sewer system further development cannot take place in the city without adding to the pollution problem. Investment in the sewer system would reinforce the many other public investments that have been made in the city and help it to remain the principal commercial, cultural, and residential center of the metropolitan area.

Despite the importance of completing the Pure Waters program in the city, the present policy of the Environmental Protection Agency (EPA) is not to provide federal aid for storm water facilities. This policy limits the amount of aid for combined (sanitary and storm) sewage systems. Because the storage-conveyance tunnels in the city would handle both storm and sanitary sewage, only a portion of their costs (that attributable to handling sanitary sewage) is eligible for EPA funding. This policy may be a serious constraint to the completion of the city program.

#### Disposing of Sludge

Sludge is the solid portion of the wastewater collected in the treatment plants of public systems and the septic tanks of private on-site systems. About 75 dry tons of sludge are collected each day at the Pure Waters treatment plants. The sludge is dewatered and incinerated, the principal method used by the Division of Pure Waters to dispose of sludge. Ash from the process is salvaged or landfilled. On an emergency basis, the sludge has been landfilled without incineration.

Incineration of sludge has both its advantages and disadvantages, which are listed below:

#### Advantages:

Incineration, because it does not depend on weather conditions, can take place throughout the year.

The heat generated from incineration could be used as a source of heat for other uses.

Disadvantages:

The cost to incinerate sludge could be higher than that of other methods of disposal. The cost to the Pure Waters Agency is about \$2 million per year.

Incineration consumes a great deal of fossil fuel (oil) energy.

Incineration could emit cadmium and other toxic metals into the atmosphere.<sup>7</sup> It is not known whether this is occurring locally, but the potential is there, as sludge at the VanLare plant contains a significant amount of cadmium.

Incineration wastes a potentially valuable source of fertilizer which could be used to replenish nutrient-depleted soils.

Incineration has resulted in an odor problem at the VanLare plant, requiring the installation of additional equipment to reduce odors.

Experiments in using sludge for land application as a fertilizer are underway in Monroe County. The experiments indicate some promise for land application of sludge from the treatment plants in the Northwest District and the Gates-Chili-Ogden District. Due to its content of cadmium and other heavy metals, however, sludge from the VanLare plant would have to be carefully experimented with locally to see if land application is feasible. A major limitation to land application is that it cannot take place in the winter months. There are also restrictions by the federal Environmental Protection Agency on landfilling sludge.

These concerns are being addressed in a sludge management study by a consulting engineering firm under contract with the Division of Pure Waters. The study will examine the methods of sludge disposal used elsewhere and determine whether they have potential application in Monroe County. Until the study is completed, it is uncertain whether incineration is the best method of sludge disposal in Monroe County from both an environmental and economic point of view.

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7. Association of Metropolitan Sewerage Agencies, *Bulletin*, No. GB78-14, May 5, 1978, p. 6.

## WASTEWATER MANAGEMENT GOALS AND OBJECTIVES

Monroe County government, including the County Legislature and county departments and agencies, should be guided by the following goals and objectives in actions related to wastewater management.

**GOAL: Assure the provision of wastewater disposal facilities which will protect public health and prevent water pollution.**

Objective: Improve the functioning of existing and new private septic systems.

Objective: Assure that public sewerage systems in Monroe County will be adequately designed and operated to protect public health and prevent water pollution.

**GOAL: Keep down the cost of meeting sewage disposal needs.**

Objective: Encourage maximum use of existing public facilities.

Objective: Seek ways to minimize the costs to the home owner of providing and maintaining private on-site sewage disposal systems.

Objective: Through effective regulation of private on-site sewage disposal systems and development densities, keep down the demand for extending sewers to areas where they are not planned and would not be supportive of an efficient land use pattern.

**GOAL: Provide for a wastewater disposal system which will be supportive of public objectives in the management of metropolitan growth.**

Objective: Through the provision of public sewerage facilities achieve a development pattern which can be efficiently served with other public facilities and which is protective of the environment.

## WASTEWATER MANAGEMENT POLICIES

To help achieve these goals and objectives, the county should be guided by the policies in this section. The policies are grouped under headings which identify their major geographical area of effect. The geographical areas are shown in Figure 1.

### Policies for Area 1: Pure Waters and Webster Sewer Service Area

- Monroe County development review agencies should conform with a general policy of encouraging development which would make more complete use of the metropolitan sewer system.

(Comment: The county agencies which are mandated to review zoning, subdivision, or other development proposals are the Planning Department, Health Department, Division of Pure Waters, Public Works Department, and Water Authority. The Environmental Management Council is often voluntarily involved in these reviews.)

- Monroe County should encourage local sewer districts to be formed in areas served by the metropolitan sewer system.

(Comment: Much of the development in the vicinity of Pure Waters interceptors remains on private on-site sewage disposal systems. When they become economically feasible, local sewer districts should be formed to make more complete use of the Pure Waters system.

- The Department of Health should continue to require development to be served by public sewers rather than private on-site sewage disposal systems where this is economically feasible.

### Policy for Area 1A: The City of Rochester

- Monroe County should continue to give high priority to completing the Pure Waters program for the City of Rochester and should continue to seek maximum federal aid to help finance the combined sewer overflow abatement program.

## Policies for Area 2: Unsewered Areas

(Note: The policies in this section apply in particular to those parts of Area 2 where sewer extensions are not planned.)

- The Division of Pure Waters should concentrate its future investments in those areas designated for growth in the Land Use Element of the Comprehensive Development Plan.
- Prior to extending Pure Waters interceptors into unsewered areas, all alternatives for solving public health and pollution problems should be considered. The alternatives shall include constructing small-scale collection and treatment facilities, organizing sanitary maintenance districts (similar in purpose and operation to sewer and water districts), and upgrading existing private on-site sewage disposal systems. The alternative selected should be that which best meets the three goals stated previously.

(Comment: Federal aid is available to pay for 75% of the costs of repairing or replacing existing on-site sewage disposal systems, where this alternative is shown in a sewer facility plan to be the least costly way of effectively solving a sewage disposal problem.)

- Monroe County should complete an evaluation of the effectiveness of county regulations on septic systems in preventing pollution and other public health problems. This evaluation should, among other things, consider the necessity of setting stricter standards for septic systems.

(Comment: A private sewage disposal study, which will address these issues, is proposed to be undertaken by the Environmental Management Council and the Health Department.)

- It should be the policy of county development review agencies to encourage development to remain at a low density in unsewered areas where the extension of public sewer facilities is not planned.



- The Department of Planning and the Environmental Management Council should assist the towns and villages in the county in revising their zoning ordinances to require larger lot sizes in areas of poor soils where public sewer service is not available or planned.
- The Department of Planning, the Department of Health, and the Environmental Management Council should encourage towns, villages, and individual property owners to form sanitary maintenance districts for improving failing on-site sewage disposal systems.
- The Department of Health should begin to compile and maintain current information on the performance of all private on-site sewage disposal systems.

(Comment: The department currently maintains a file on all new and repaired on-site sewage disposal systems which it approves.)

#### Policies for Area 3: Municipal Sewer Service Areas

- Monroe County Development Review Agencies should conform with a general policy of encouraging development in areas served by municipal sewer systems where they have surplus capacity and meet high standards of performance.
- Monroe County should encourage the formation of local sewer districts in areas served by municipal treatment systems which have surplus capacity and meet high standards of operation.
- Where municipal sewage treatment plants do not meet high standards of performance or have inadequate capacity to meet the needs, the upgrading or expansion of these plants should be considered as an alternative to the extension of Pure Waters facilities to the service area. The method of disposal selected should be that which best meets the three goals stated previously.
- All municipal treatment plants should meet required levels of performance. Where the treatment plants do not meet federal and state mandated levels of performance, then the Pure Waters Agency should consider offering the

following two alternatives to extending interceptor sewer services to the area:  
(a) entering into a contract to operate the treatment plant or (b) entering into a contract to give technical services concerning proper plant operation.

#### Other Policies

- Monroe County should evaluate the potential of using new technologies for wastewater disposal in the county.

(Comment: This issue will be addressed in the study on sewage disposal to be undertaken by the Environmental Management Council and the Health Department.)

- Monroe County should continue to investigate the sludge disposal problem. For those treatment plants where methods of disposal are shown to be more desirable than incineration, those methods should be brought into effect.
- Monroe County should encourage the multiple use of public sewer facilities, including sewer easements and treatment plants, for recreation, public education, and other community uses.

(Comment: New federal regulations require sewer facility plans to consider the potential for multiple use of sewer facilities. Such facilities may be used for certain types of recreation, public education, and other community activities, thereby reducing the costs of providing these services. (However, consideration should be given to minimizing the potential hazards associated with recreational and community activities in or near sewage treatment works. If existing sewer easements are to be used for recreation, the terms of the easements would have to be renegotiated. Where such easements are feasible for recreation, care should be exercised to preserve the privacy and safety of nearby residents.)

## IMPLEMENTATION ACTIONS

The following identifies some actions which would be required to implement the goals, objectives, and policies. Most of the actions are stated in general terms and are derived directly from the previous policy statements. The listing is not intended to be complete. A more complete listing of specific actions could be compiled at a later date, once there is general agreement by the Monroe County Legislature on the basic directions to be taken in the wastewater management element of the County Comprehensive Development Plan.

### A. County Legislature Actions

1. Adopt a wastewater management element as part of the County Comprehensive Development Plan to give policy direction to the actions of county departments, agencies, and authorities and to provide a metropolitan framework for municipal actions.
2. Adopt a resolution urging maximum possible federal aid for the combined sewer overflow abatement program in the City of Rochester.
3. Based on the results of the forthcoming study on sewage disposal by the Department of Health and the Environmental Management Council, revise if necessary the County Sanitary Code to assure that its regulations effectively control both existing and new private on-site sewage disposal systems.
4. Authorize sufficient staff resources to the Department of Health to begin a program of inspecting and reapproving existing on-site sewage disposal systems as well as to carry out other policies and actions in this plan.

### B. County Agency Actions

1. Division of Pure Waters: consult with the Department of Planning and the Environmental Management Council in the early stages of planning for sewage facilities to assure that land use considerations are taken into account.

2. Division of Pure Waters: present a report to the County Legislature recommending changes if necessary in the way the county disposes of its sludge.
3. Department of Health and Environmental Management Council: complete a study on private sewage disposal in Monroe County which evaluates the effectiveness of the county's on-site sewage disposal system requirements; assesses the feasibility of using new technologies for wastewater disposal; and recommends changes, if necessary, to the county's program on regulating on-site sewage disposal systems.
4. Department of Health: Upon having adequate staff resources, begin a program of collecting, organizing, and evaluating data on the performance of existing on-site sewage disposal systems in Monroe County.
5. Departments of Planning and Health and the Environmental Management Council: work with towns, villages, and property owners to assist in the establishment of local sanitary maintenance districts to correct problems of failing on-site sewage disposal systems.
6. Department of Health: Continue to maintain current information on on-site sewage disposal system regulations and continue to distribute this information to appropriate groups.
7. Department of Planning and the Environmental Management Council: assist municipalities in revising their zoning regulations to reduce densities in unsewered areas.
8. Department of Health: seek possible federal funds to undertake a demonstration project on the application of alternative sewage disposal technologies in Monroe County.
9. Departments of Planning and Parks, Division of Pure Waters, and the Environmental Management Council: inventory lands and facilities of the Pure Waters system to determine the feasibility of their potential use for

recreation, community education, or other public purposes consistent with the guidelines noted in the comment to the last policy in the policy section.

10. Department of Health and Division of Pure Waters: prepare and distribute an information brochure on the importance of reducing water consumption in keeping down the costs of wastewater disposal where facilities are reaching capacity.

### C. Municipal Actions

1. Adopt revised zoning regulations which require large minimum lot sizes in areas poorly suited for on-site sewage disposal.
2. Work with the Department of Health to identify existing on-site sewage disposal systems which are not performing adequately.
3. Work with the Department of Health and individual property owners to establish local sanitary maintenance districts to correct problems of failing on-site sewage disposal systems.
4. Approve of the creation of local sewer districts which will make more complete use of public sewer systems.
5. Enter into contracts which would enable the Pure Waters Agency to operate certain local sewage treatment plants or to provide information leading to the proper operation of these plants.