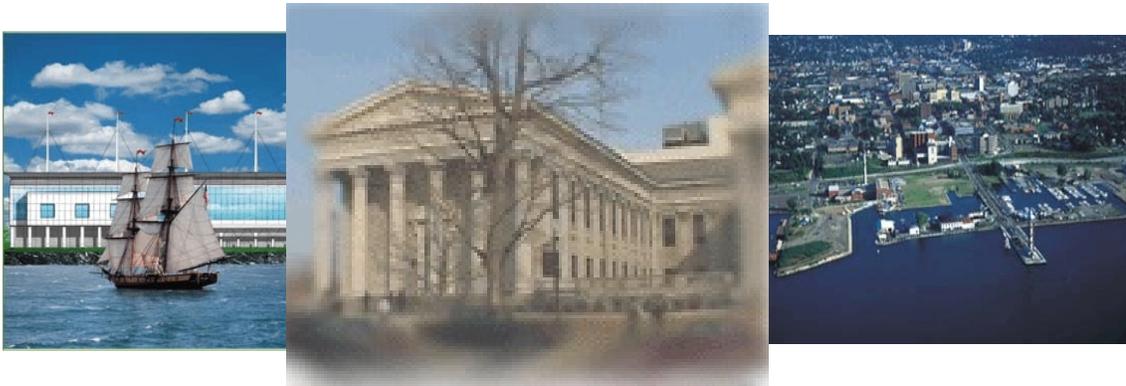


ERIE COUNTY COMMUNITY FACILITIES AND UTILITIES PLAN



**Adopted by
ERIE COUNTY COUNCIL
December 9, 2003**

**Prepared by
Graney, Grossman, Colosimo and Associates, Inc.
and the
Erie County Department of Planning**

**ERIE COUNTY COMMUNITY FACILITIES
AND UTILITIES PLAN**

**This Plan was prepared
as a primary element to the
Erie County Comprehensive Plan,
per Article III, Section 301(a)(4) and (b) of the Pennsylvania
Municipalities Planning Code,
Act 247 of 1968, as amended.**

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**and by the
County of Erie, Pennsylvania**

2003

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ERIE COUNTY LAND USE PLAN

ERIE COUNTY NATURAL AND HISTORIC RESOURCES PLAN

ERIE COUNTY COMMUNITY FACILITIES AND UTILITIES PLAN

ADOPTED

DECEMBER 9, 2003

**COUNTY OF ERIE
AND
COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF COMMUNITY AND ECONOMIC DEVELOPMENT
LAND USE PLANNING AND TECHNICAL ASSISTANCE PROGRAM**

**LUPTAP M.E. NO./CONTRACT NO. 20-908-0024
JULY 1, 2002 - JUNE 30, 2003**

**CLOSEOUT REPORT
DOCUMENTS PACKAGE**

ERIE COUNTY DEMOGRAPHIC STUDY

ERIE COUNTY LAND USE PLAN

ERIE COUNTY NATURAL AND HISTORIC RESOURCES PLAN

ERIE COUNTY COMMUNITY FACILITIES AND UTILITIES PLAN

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ERIE COUNTY COMMUNITY FACILITIES AND UTILITIES PLAN

PREFACE

In 1997 and 1998, the Erie County Department of Planning completed a two-volume element of the Erie County Comprehensive Plan covering community facilities, services, and utilities. The Plan was presented to County Council but not formally adopted. It was reclassified as a study and used as a reference document. In 2002, numerous discussions were held with local governments, and it was decided to issue an updated version of this effort. By their very nature, Plans must be an expression of policy. The example of upper Peach Street in Millcreek and Summit Townships can be used. That explosive growth was the result of a series of circumstances coming together; circumstances such as open land, sewer capacity, a main highway, an Interstate; new water lines and road improvements. It is abundantly clear that “public” decisions in this area, relative to infrastructure, had a profound influence on investments made by the private market.

It must then be acknowledged that public decisions, relative to public services, had a profound influence upon that geographic area of Erie County. A multitude of new retail, service, and some industrial uses are the most obvious consequences. These have united to bring dramatic change to Erie County in a single generation. What was once open farms with scattered homes is now filled with traffic, signs, stores, and lights. And, the changes are not isolated to the immediate locale. Regional travel and residential patterns have also been affected.

This Plan further acknowledges that infrastructure decisions have a variety of other effects upon Erie County. It is not merely a question of growth and growth impact. The promotion of development in one geographic location will have an obvious impact upon that area. However, there are also other very serious considerations.

People are beginning to ask questions. Can we grow our communities smarter? Growth policies should be economically as well as environmentally sound. Many now believe that putting conservation into local planning* can

- Allow developers to build a maximum number of units and yet,

- Leave more than 50 percent of land in connected greenspace;
- Reduce some of the need to expand the network of water, sewer, and road systems;
- Allow for a menu of growth choices; and
- Keep local control.

*See Growing Greener, a conservation planning workbook for municipal officials in Pennsylvania, produced by the Natural Lands Trust, in concert with the Pennsylvania Department of Conservation and Natural Resources (1997).

Added to the preceding list of goals, Erie County must add two others:

- Preserve and enhance the viability of Erie City.
- Protect the unique boroughs and villages of Erie County.

Yet, this Plan's point is not to espouse a return to "yesterday." It simply acknowledges that new development has negative as well as positive ramifications, and a balance is needed, especially where these new developments are the result of public policy, and often enjoy sizeable public subsidies. The espousal of such balancing policies is, at once, idealistic and realistic. They strive for a more intelligent future, a better, more planned future. A future, where the citizens of Erie County will have some control over their lives, not simply be the collective observers of random development events as they occur.

While there is no attempt in this document to micro-manage County growth, there are four very clear priorities:

1. Promote Smart Growth
2. Promote Intergovernmental Cooperation and Regional solutions
3. Provide for Prosperity
4. Enhance the Quality of Life

The Plan's purpose is to initiate a new concept of growth for Erie County. That concept will be marked by specific characteristics:

- Public subsidy for the private sector will not be “on demand” but on “plan.”
- Unique or high-profile economic developments requiring large public investment must demonstrate positive impacts for quality job creation.
- If the public sector provides for infrastructure, it has a right to demand these investments are beneficial.
- There are certain areas of Erie County that are too valuable as natural resources to be developed.
- Erie County’s traditional urban and rural landscape deserves protection.
- Existing urban centers, large and small, should not be the victim of disinvestment.

Obviously, this Plan cannot accomplish this growth concept alone. The County Land Use Plan is a second key element.

In the preparation of this update, some limitations were encountered. Due to budget constraints, it was decided that not all elements of the background information needed to be updated. As water and sewer facilities are the “engines of change,” it became the focus of resources.

In the section on Water and Sewer, the updated background is integrated with recommended changes. However, these concentrate primarily upon upgrades or improvements for specific systems. The overall Plan is quite short and specifically coordinates this important element of public utilities with the County’s Land Use Plan.

In addition, other format changes were made. The Plan has been scaled to a one-volume effort and the number of graphics reduced.

WATER AND SANITARY SEWER FACILITIES

In 1997/1998, the Erie County Department of Planning, with its consultant, published a Community Facilities/Public Utilities Plan. This Plan was divided into two volumes: the Background Analysis and the Plan dated 1998. The County is now updating those sections of the Community Facilities/ Public Utilities Study. Concurrent with this update, the County is preparing its Land Use Plan and, in that effort, was able to meet with the individual municipalities of Erie County and establish a consensus relative to future growth patterns, which, in turn, clearly establishes the need for future water and sewer facilities.

This section of the effort is concerned with the Background information but includes, as appropriate, some system recommendations. Generally, this edition will follow the same format of the original Plan. Information contained in this update was gathered from the various systems existing in Erie County. All communities responded to the request for updated information. In addition, the Northwest Pennsylvania Regional Planning and Development Commission (NWPRP&DC) had recently prepared a “needs” list of possible water and sewer projects. Where appropriate, that information has been included and is referred to as the “Northwest Report.” Though this Background report follows the same format of the prior report, the Countywide Plan portion does not. This edition takes a very different approach by following the format and general recommendations of the Erie County Land Use Plan.

There can be little doubt that water and sewer utilities are expensive. The Northwest Report indicates current and long-term sewer and water needs in Erie County of over \$142 million. If such projects were funded purely from local resources, it would translate into a bill of \$500 for every man, woman, and child in Erie County. And, that figure did not include the extensive, long-term, improvements envisioned by the Erie City Water Authority of \$104,855,000.

As expensive as they may be, public water and sewer services are the basic necessities which allow modern growth to occur. Without such public infrastructure, any type of intense development cannot be supported. This is especially true in Erie County, where soil conditions are extremely variable for both on-site wells and septic tanks.

In 1972, the ERIE COUNTY PENNSYLVANIA SOIL INTERPRETATIONS report was published by the Soil Conservation Service (United States Department of

Agriculture). That publication estimated that 90 percent of the County's soils had "Severe" limitations for on-site sewage effluent disposal. Many local soils are too impervious, while some are too porous to safely accommodate either on-site wells or septic systems.

In such environments, there is the potential of well contamination by septic tanks, which can create a very real public health hazard. In fact, several communities of Erie County have experienced either surface or groundwater pollution due to septic system malfunctions. This is a particular problem for shallow wells, using perched water tables, that are found in many of the older rural areas of Erie County. These wells are vulnerable to both surface pollution and to drought conditions. Deeper wells also can have problems. They are subject to variable yields, due to droughts as well as possible problems of water quality. Consequently, high-density development is rarely, if ever, supportable by purely on-site water and sewer facilities.

This section involves a detailed background review of all the principal water and sewer systems in the County. To provide an overall view of existing water and sewer systems, two plates follow this page which illustrate their current coverage: Erie County Existing Water Systems and Erie County Existing Sewer Systems.

Water and sewer systems possess a special lexicon. Some of the more common terms are listed here:

GPD - gallons per day

MGD - millions of gallons a day

I&I, or Infiltration and Inflow - this term refers to the *infiltration* of groundwater into sanitary sewers from loose joints, leaking manholes, or cracked lines; and the *inflow* of stormwater into sanitary sewers from roof drains, parking lot drains, and storm drains.

DEP - the Pennsylvania Department of Environmental Protection, formerly the Department of Environmental Resources (DER).

Raw Water - water prior to its treatment for human consumption.

Finished Water - water treated and ready for drinking.

Standpipe - a water tank, usually elevated and used for water storage and pressure.

BOD and CBOD (Carbon) (Biological Oxygen Demand) - a measure of the organic load on a sewage treatment plant used by DEP in their permitting process.

CAP (Corrective Action Plan) - a plan submitted to DEP to resolve problems with a sanitary sewer system.

Lift Station - used in sanitary sewer collection systems to pump sewage up a grade.

EDU (Equivalent Dwelling Unit) - a term used in sewer and water planning that is roughly equivalent to a single household.

EPA - the Environmental Protection Agency of the Federal government.

Combined Systems - a sanitary sewer collection system which also has storm drains connected to it.

ORF (Overflow Retention Facility) - a holding tank or pond to temporarily hold excessive sanitary sewerage influent to prevent the hydraulic overload of the sewer treatment plant.

RBC (Rotating Biological Contactors) - one method of sewer plant operation.

Yield - well production for water, usually given as the safe yield for dry weather or as an annual average and expressed as gallons per day.

Groundwater - literally water from the ground. For water systems, this typically means well water.

Surface Water - water taken from lakes, rivers, and streams.

Albion Borough - Water System
**(Albion Borough, Cranesville Borough, and Parts of Conneaut Township
and Elk Creek Township)**

Current Situation: The existing water system in Albion Borough is owned by the Albion Municipal Authority and operated by Albion Borough. It serves all of that Borough as well as Cranesville Borough (via bulk purchase) and portions of Conneaut and Elk Creek Townships. Since 1993, a very large customer has been added to this system, the State Correctional Institution (SCI)-Albion, located in Conneaut Township.

Capacity and Water Source: The primary source of water is located four miles southeast of the Borough in Elk Creek Township on a parcel of land which is on a long-term lease to Albion Borough. One of these sources, a drilled flowing well, is reported to have been constructed in 1913. The remaining sources were "New Deal" public works projects completed in the 1930s. A second field north of Albion was added in the 1980s. Rated yields are as follows:

TABLE 1				
WATER SUPPLY INVENTORY - 1995				
(ALBION MUNICIPAL AUTHORITY)				
<u>Wells</u>	<u>Year</u>	<u>Depth</u>	<u>Safe Yield*</u>	<u>Average Yield</u>
Well GR-98	NA	66 Feet	NA	27,825 GPD
Well SP-97	NA	147 Feet	NA	156,567 GPD
Pont Well Field				
West Well	1935-37	40 Feet	57,600 GPD	81,033 GPD
East Well	1935-37	40 Feet	86,400 GPD	65,745 GPD
South Well	1977	47 Feet	75,000 GPD	75,472 GPD
Gage Well Field				
I-84 Well	1984	57 Feet	108,000 GPD	NA
AL-3 Well	1982	62 Feet	43,200 GPD	11,726 GPD
Warren Springs	1910-13	60 Feet	10,000 GPD	43,233 GPD
*During dry weather conditions				
Source: Albion Borough and the 1995 Annual Water Supply Report (DEP)				

The flow of the above wells is gravity-fed into eight-inch transmission lines that conduct water by gravity from the receiving wells to the distribution reservoir located

ERIE COUNTY SEWER SYSTEMS

General Locations of Municipal and
Large Group Sewer Service Areas



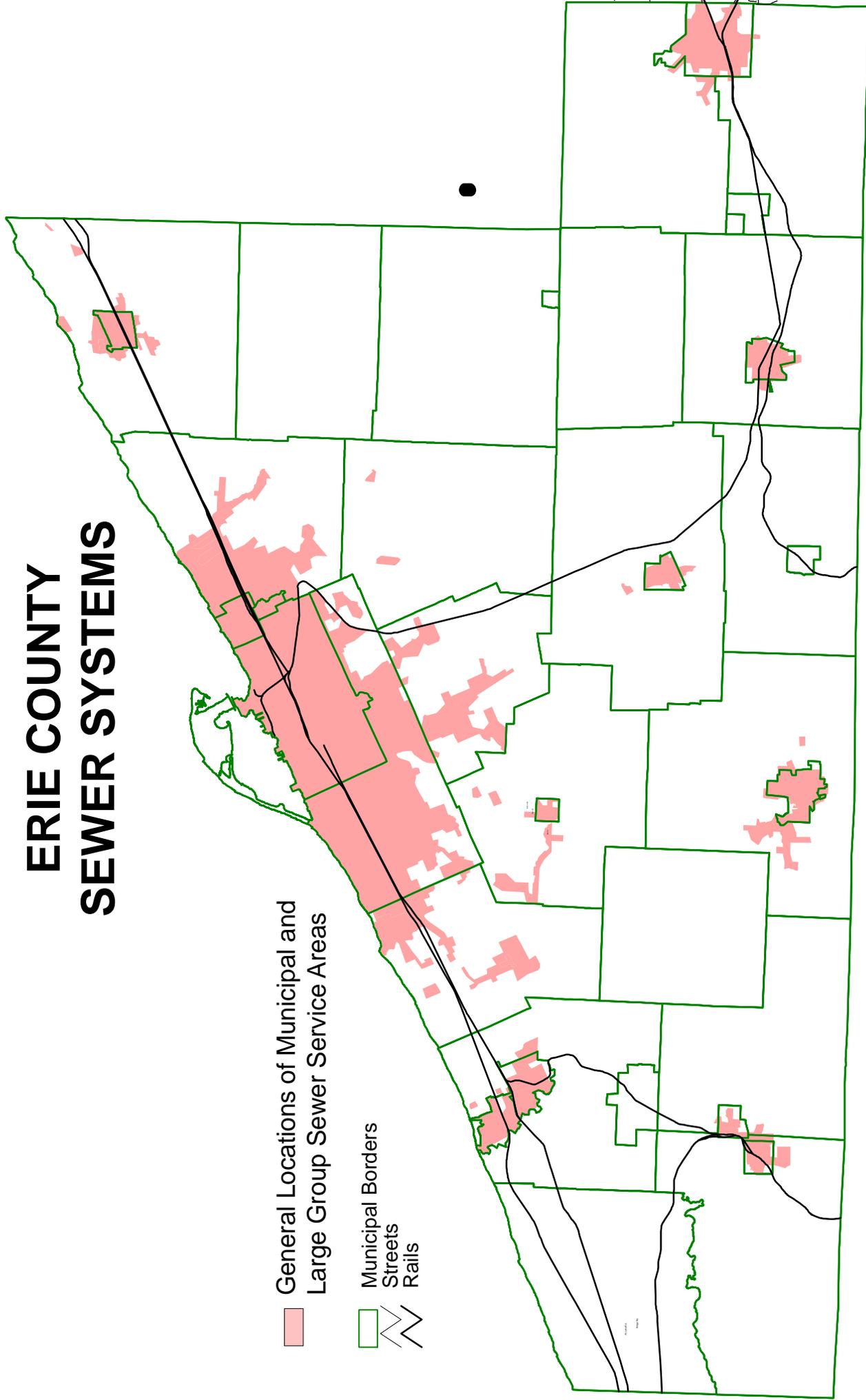
Municipal Borders



Streets



Rails



outside of Albion Borough on Reservoir Road in Conneaut Township. For the majority of the year (eight months), these sources supply the Borough by natural artesian pressure. During periods of very low groundwater levels, it is necessary to pump water from the dug wells and occasionally from the receiving wells. Since 1995, this system has added two new wells and is seeking another source.

Service: Water use patterns and usage are as follows:

<u>Type of User</u>	<u>Customers</u>	<u>Average Use GPD</u>
Domestic	824	115,824
Commercial	55	11,222
Industrial	11	2,604
Institutional	16	277,257
Bulk*	1	41,531
Other	9	2,846
Unaccounted	<u>NA</u>	<u>10,319</u>
Total	916	461,603
*Cranesville Borough		

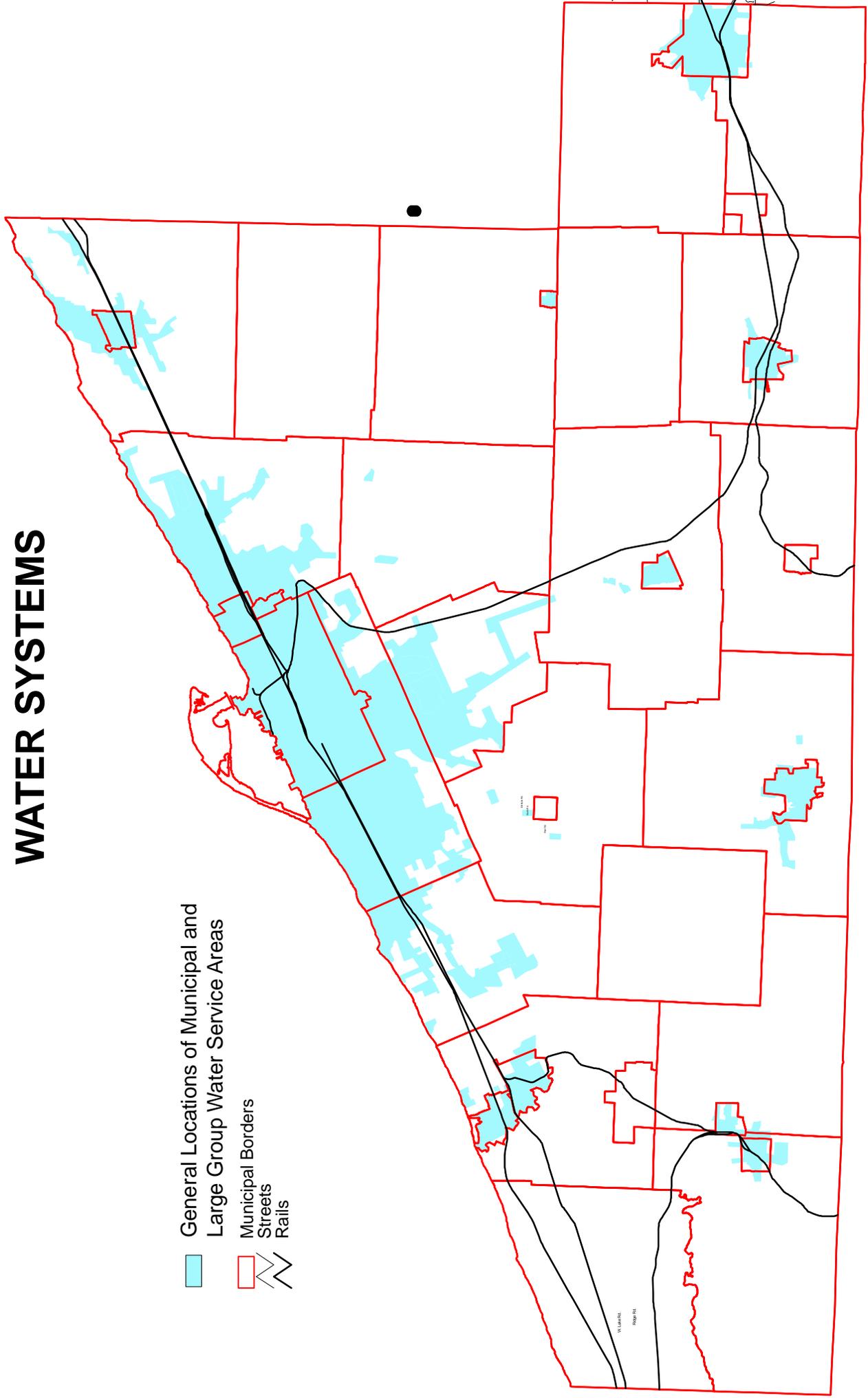
Source: Albion Borough 2001 Annual Water Supply Report (DEP)

The bulk water customer, noted above, is Cranestville Borough, which used 34,940 gpd in 1995.

User figures report 78 hookups in Conneaut Township and 34 in Elk Creek Township. Cranestville reports 100 percent coverages in the municipality, with 246 connections, primarily domestic. The Cranestville figure includes 11 customers outside its boundary.

Comments and Recommendations: The volume of water use in Albion can almost be viewed as an economic indicator. The *Albion-Cranestville Area Comprehensive Plan* shows a general decrease of average water use from 1983 to 1992. Then the impact of the construction and subsequent use of the State Correctional Institution Albion can be seen. From a low point of 205,013 gpd in 1992, the system has shown

ERIE COUNTY WATER SYSTEMS



- General Locations of Municipal and Large Group Water Service Areas
- Municipal Borders
- Streets
- Rails

a dramatic increase in water production.

Since 1993, the State Correctional Institution Albion, has been a customer for the water system. Originally, the facility was planned for about 1,000 prisoners. It then increased to 1,600 inmates, but now there are 2,200 along with 581 employees. According to Albion officials, SCI now uses as much water as the balance of the system combined. Recent newspaper stories indicate the Borough has drilled new wells to accommodate this increased use of water. These capital expenditures are now a matter of negotiation between the Borough and the Commonwealth. Albion believes the State should contribute to the capital needs SCI-Albion has created for the Borough's water system.

Albion Borough - Sewer System

__(Albion Borough, Cranesville Borough, and Parts of Conneaut Township and Elk Creek Township)

General Description: The Albion Borough plant not only provides service to the Borough, but also to contiguous municipalities. It is operated by the Borough. Treatment is provided for all of Cranesville Borough and portions of Conneaut and Elk Creek Townships. According to 1995 reports, the plant has average hydraulic flows of 522,000 gpd, with organic loads of 785 pounds daily. The plant provides from secondary to tertiary treatment. The system was extended to serve the State Correctional Institution, including service to customers along the line constructed to the prison. Prison population was originally estimated at 1,000 inmates; however, it was expanded to 1,600, and, today, reportedly houses 2,200. This obviously presents a greater challenge than was originally anticipated.

Capacity: The Albion sewer treatment plant is operating within its permit. The plant is permitted to treat up to 1.5 mgd and take organic loads of 1,179 pounds (BOD) daily. Historically, local officials have projected a modest 3 percent growth per annum over the near term. However, these estimates need to be increased as the SCI-prisoner population grows.

In contrast to the hydraulic flows, the organic loadings are sometimes a problem. The organic loading from the prison is twice that of the original projection. With the projected increase at SCI-Albion and a steady growth of local housing, this system faces new demands in the future.

Comments and Recommendations: According to the Northwest Report, the

Borough anticipates a long-term need of \$5,000,000 to upgrade and expand its sewer treatment plant. Though the Borough has had I&I problems for some years, the increased inmate population has exacerbated the situation. At DEP's request, the Borough submitted a CAP in January of 2003 as well as purchasing a new sludge presser. Borough officials indicate the prison is stressing the sewer system because of the organic load from linens, towels, uniforms, cooking, and domestic needs. Once again, the solution is a matter of negotiations between the State and Borough.

City of Corry - Water System

_____ (Corry City and Parts of Concord Township, Wayne Township, and Columbus Township [Warren County])

The City of Corry operates an extensive public water system which services over 85 percent of its population. In addition, lines also extend into portions of Wayne, Columbus, and Concord Townships.

Capacity and Water Source: On an average day (2001), there were 1,397,387 gallons of water pumped by the Corry system. Reported use varied between 1,817,800 gallons on the maximum day and 912,800 gallons as the minimum.

It should be noted that although the number of users has increased for this system, water use has dropped appreciably.

Corry uses a groundwater system and has a series of some 7 wells. The municipal well field is located in the northern portion of the City. These wells have a dry weather safe yield estimated at over 2.3 mgd, and normal weather capacity reported at 2.8 mgd. In 1994, a new well (Number 33) was permitted, giving the system even more reserves.

Although the water source is on the north side of Corry, its reservoir is located on the south side. It has a rated storage capacity of 3,500,000 gallons. This divided concrete facility is covered with a metal frame building.

Service: All of the developed areas of Corry are being served, along with 97 hookups in Wayne Township, 251 in Columbus Township (Warren County), and 24 in Concord Township. Some 85+ percent of the population is served in Corry, over 15 percent of Wayne Township residents, 31 percent of Columbus Township's population, and 5 percent of Concord Township. Current water use patterns and usage are as follows:

TABLE 3

**CORRY AREA
2001 WATER USE PATTERNS AND USAGE**

<u>Type of User</u>	<u>Customers</u>	<u>Average Use GPD</u>
Domestic	2,875	477,610
Commercial	297	172,425
Industrial	56	315,002
Institutional	30	25,123
Unaccounted	NA	28,014
Totals	3,258	1,018,174

Source: City of Corry, Annual Water Supply Report, 2001 (DEP)

Comments and Recommendations: This is a well-managed, sound utility. Over the past years, Corry has instituted a leak detection program and is aggressively solving its once significant water loss. The Corry system appears well managed with adequate water services. Beyond ongoing leak detection and line replacement programs, no other needs are known.

**City of Corry - Sewer System
(Corry City and Parts of Wayne Township, Concord Township,
and Columbus Township [Warren County])**

General Description: Though the City of Corry uses an authority to finance its sewer system, the operation is a City function. Its wastewater treatment plant treats effluent from the City of Corry and portions of three contiguous townships. The largest suburban contributor is Columbus Township (Warren County), at about 60,000 gpd inflow. Wayne Township is also on-line. There are 100 connections in Wayne, and they have purchased 100,000 gpd in plant capacity. One of the larger customers in Wayne Township is the Fish Cultural Station of the Pennsylvania Fish and Boat Commission, on Route 6. Concord Township has only a few border connections.

There are 37 miles of sewer collection lines in the City of Corry's sewer system. Although 12 miles are high-quality modern installations, the remaining 25 miles are physically old and part of the original combined sanitary and storm drain system. These remnants of the combined system, and roof drains, loose pipe joints, and

leaking manholes, allow the extensive inflow and infiltration of storm and groundwater. In 1986, a major program eliminated many infiltration points. Work on inflow has been continued with the Bear Creek Interceptor project in 1995, another major improvement.

Yet, these improvement programs apparently did not satisfy PA DEP. Consequently, in February 3, 2002, Corry and DEP entered into a Consent Order and Agreement. The essence of this action was twofold. First, develop a Long-Term CAP and an Act 537 Plan Update. That effort has been successful. Not only did Corry complete these tasks, but it completed the first phase of the identified needed improvements. This included the reconstruction of the Avenue A Pump Station as well as short-term improvements at the treatment plant. These were completed in the spring of 2002.

Capacity: According to available information, the City of Corry wastewater plant has permits for daily flows of 4 mgd and its average flow is 2.9 mgd. Permitted organic loading is 2,400 pounds a day; current use levels are approximately 1,500 pounds daily.

Comments and Recommendations: The preparation of a long-term plan, short-term plant improvements, and the reconstruction of the Avenue A lift station was completed as Phase 1 of Corry's sewer program. Phase 2 is being implemented in accordance with the Long-Term Control Plan and comprehensive Act 537 Update Revision approved by PA DEP on September 19, 2002.

Phase 2 includes improvements to the wastewater treatment plant and collection system improvements. The treatment plant work includes an ORF (750,000 gallons), primarily effluent diversion structure improvements, primarily effluent filters, improvements to the RBCs, final clarifiers, final filters, chlorine contact tank improvements, instrumentation and controls, as well as electrical system upgrades. The collection system improvements include 780 feet of a 48-inch interceptor and 910 feet of sewer line, as well as manhole improvements. Cost for these are estimated at \$7.8 million. Continuing sanitary and storm drain separation in the future has an estimated cost of \$2.4 million.

Borough of Edinboro - Water System
(Edinboro Borough and Parts of Washington Township)

Though there is a Municipal Authority in Edinboro, the water system is a municipal operation. Water use in Edinboro fluctuates as a function of the Edinboro

University's enrollment and school year. In consequence, their utility systems are subject to significant demand variations. The service area is essentially confined to the Borough limits. There are modest extensions to commercial areas (Route 99 North) as well as limited residential customers (Route 6N East and Route 99 South) in Washington Township. At one time, the Borough also provided service on Route 6N West. This area is now serviced by Washington Township's system. The Borough reports it supplies water to 100 percent of its residents.

Capacity and Water Source: According to 2000 figures, on an average day, 777,959 gallons of water are pumped, with maximum use at 1,385,000 gpd and the minimum one-day draw at 328,000 gallons. This minimum-to-maximum ratio is over fourfold, and is a direct result of the changing demand by Edinboro University.

Edinboro Borough relies upon a groundwater system, located on the Edinboro University campus. There are two wells as its main water source with two other wells as a backup. The average draw down is listed at 777,959 gpd, with safe, dry weather, capacity listed at 1.5 mgd. Total well capacity is rated as 5.58 mgd.

Service: Current water use patterns and usage are as follows:

TABLE 4		
EDINBORO AREA		
CURRENT WATER USE PATTERNS AND USAGE		
<u>Type of User</u>	<u>Customers</u>	<u>Average Use GPD</u>
Domestic	1,418	316,613
Commercial	93	58,527
Industrial	4	100,740
Institutional	3	179,311
Non-Metered Connections*	3	32,034
Unaccounted	<u>NA</u>	<u>89,095</u>
Total	1,521	776,320

*Includes use by fire department, wastewater treatment plant, and local government; bulk sales, hydrant flushing, etc..

Source: Borough of Edinboro, Annual Water Supply Report, 2000 (DEP)

There are two primary storage tanks in the system, the West Tank, located on Sherrod Hill Road, and the East Tank, located on Dundon Road. The capacity is 500,000 gallons for each tank.

Comments and Recommendations: The system capacity appears to be adequate within the next five years. With the leveling off of enrollment at Edinboro University, the demand for water has been stabilized. In the prior edition of this report, the Borough's water system had two problems. Water loss was approximately 25 percent. Current loss is estimated at 11 percent. This improvement was due to a 1999 leak detection program. Also, the system once had problems with Trichloroethylene contaminants. This problem has been also resolved. In 2002, the Borough began a meter replacement program which will result in all meters capable of being read by radio frequency. Back flow preventers were also installed. The Borough reports it supplies water to 100 percent of its residents.



Borough of Edinboro - Sewer System (Edinboro Borough and Parts of Washington Township)

General Description: The wastewater treatment plant, which services the Borough of Edinboro and a few adjacent customers in Washington Township, is located at the southern end of town. The system is owned by the Municipal Authority of the Borough of Edinboro, but is municipally operated. Due to the presence of Edinboro University, the sanitary sewer system is influenced by the student population. (See the prior section, especially the paragraph on water use.) Both hydraulic and organic loading to the treatment plant drop significantly in the summer when enrollment on campus drops down to only those students taking summer courses. The current wastewater treatment plant was constructed in 1988. Presently, the average hydraulic load is less than 800,000 gallons per day (2001), with an organic loading of 1,120 pounds per day BOD5. In addition to the treatment plant, there are 9 pumping stations in the Edinboro collection system. The only industrial influent is from Penn Union Corporation.

Capacity: The permitted hydraulic capacity of this plant is 1.2 mgd, with the organic load limit of 2,700 pound BOD5 per day. The five-year average flow was .817 mgd

and the projected five-year flow remains below the 1.2 mgd capacity. The 5-year average organic loading was 1,309 pounds per day BOD5 and the projected five-year organic loading is 1,750 pounds per day BOD5, well below the 2,700 pounds per day BOD5 permit capacity.

Comments and Recommendations: The Borough of Edinboro does not anticipate a three consecutive month hydraulic overload at the treatment plant in the next five years. The Edinboro wastewater treatment plant had four days where the flow was over 1.2 mgd in 2001. The treatment plant has not had a month over 1.2 mgd in the last five years. Schreiber Corporation has calculated a new organic loading number of 2,700 pounds per day BOD5, based on the aeration distribution and blower capacity at the treatment plant. This new organic loading number has been accepted by the DEP as of February 15, 2000. In 2001, the highest maximum month value was 1,421 pounds per day BOD5. The five-year projected maximum month value is 1,750 pounds per day BOD5, well below the acceptance level of 2,700 pounds per day BOD5. There has been some discussion of the Borough accepting sanitary sewer flows from neighboring Washington Township. There are a number of alternatives that have been proposed between Washington Township and the Borough of Edinboro, but to date, an agreement has not been reached.



The Edinboro system appears adequate at this time. The County encourages ongoing discussions between Edinboro and Washington relative to sewage treatment.

City of Erie - Water System
(Erie City, Lawrence Park Township, Wesleyville Borough, and Parts of Fairview Township, Harborcreek Township, Millcreek Township, and Summit Township)

The City of Erie water system, operated by the Erie City Water Authority, is the largest public water operation in Erie County. The system provides virtually all of the water utilized by the City of Erie, Lawrence Park Township, and Wesleyville Borough. In Millcreek Township, much of the older developed section is served directly by the City water system. The Millcreek Water Authority services much of the balance of the Township, primarily with bulk water purchased from the Erie City

Water Authority. Millcreek does have some well capacity; however, it does not represent a major raw water resource at this time. Significant portions of the Townships of Summit and Harborcreek also receive water from the Erie City Water Authority, either directly or through bulk sale. Fairview Township actually buys its water from the Millcreek Water Authority, but it is primarily Erie City water which passes through the Millcreek system.

Capacity and Water Source: With an average daily water production of approximately 37.7 millions gallons, the Erie system is dominant in the County. In addition to its size, the Erie City Water Authority was also unique as the only County water provider now utilizing Lake Erie water. However, North East Borough does have a Lake Erie withdrawal permit and Millcreek Township is considering that option. The Pennsylvania Department of Environmental Protection granted a Water Allocation Permit (No. WA25-63C) to the Erie City Water Authority, allowing a maximum withdrawal of 62 million gallons a day from its two existing Lake Erie intakes. Some 32 mgd can be obtained via the Chestnut Street intake, while up to 56 mgd is allowed at the West Plant. However, the daily maximum from the two sources combined is limited to the overall 62 mgd capacity.

Because of its utilization of water from the Great Lakes/St. Lawrence River Basin, the Erie City Water Authority's ultimate service area is limited to the portion of the County which drains into Lake Erie. This limitation is based upon the 1986 Water Resources Act. That Act states that water transfers out of the Great Lakes Basin can be vetoed by any one of the eight Great Lakes States. Historically, this provision has been strictly interpreted. For Erie County, the law creates unique problems for the expansion of water service in some sectors. Summit Township is a current growth area that has land which drains to both the Great Lakes Basin and the Ohio-Mississippi River system. The Township's Water Authority constructed a water tank outside the Great Lakes Basin. Summit Township has created a groundwater supplied public water system for non-Great Lakes Basin customers. See the accompanying plate, Erie County Watershed Areas, for a graphic illustration of this situation.

Raw lake water is treated at one of two locations: the West (Sommerheim) plant located on Sommerheim Drive or the Chestnut Street plant. Each of these plants can be considered as primary treatment facilities. Both use sand filters, various chemical treatments, and chlorination. In the prior editions of this report, problems with both water treatment plants were noted. Since that time, the intake cribs and other

elements of both have been either replaced or rehabilitated. However, other issues remain at both locations, especially the Chestnut Street plant. In 2001, the Chestnut Street plant averaged 13,313,314 gpd and was used for 170 days. The Sommerheim plant was on line all year and averaged 26,346,904 gpd.

TABLE 5

**1995-1999 WATER TREATMENT PLANT PRODUCTION
ERIE CITY WATER AUTHORITY**

<u>Year</u>	<u>Average Daily (MGD)</u>
1995	39.4
1996	35.8
1997	32.2
1998	33.0
1999	36.5

Source: The 2000 Erie City Water Authority Master Plan Report

Because of its storage network, the City of Erie system can literally supply more water in a day than it withdraws from Lake Erie. There are 9 water storage facilities in the City of Erie system, as shown by Table 6. The Depot Road and Kuhl Road tanks are the most recent additions to system storage. Two additional tanks are scheduled to be designed in 2003, with construction slated for 2003 and 2004. These are the South Booster Service Area Tank, to be on Cherry Street Extension (1,000,000 gallons), and the East Lake Road Service Area Tank (1,500,000 gallons) on Troupe Road.

Due to the variety of elevations in its service area, the Erie Water system is broken down into three primary sections: low, high, and booster (east and west). It is further broken into five booster service areas and two low service areas as well as the high service area. All finished water is pumped to the low service area. Water is repumped to the high service area for distribution to its users and some is then pumped to the booster districts.

TABLE 6**ERIE AREA WATER STORAGE FACILITIES**

<u>Facility</u>	<u>Capacity In Gallons*</u>
Kuhl Road	1,000,000
Depot Road	750,000
Sigsbee Reservoir	33,000,000
Johnson Reservoir	15,000,000
Cherry Street Reservoir	10,000,000
East Hydro Pillar	1,500,000
East Standpipe	800,000
West Hydro Pillar	1,000,000
West Standpipe	800,000
Total	63,850,000

*Note: Effective storage may vary from listed capacity.

Source: Annual Water Supply Report, 2001 (DEP) and ECWA staff

Service: Table 7 presents the number of accounts in 2001 for the Erie City Water Authority and the distribution of these accounts by type and by municipality, while Table 8 shows consumption by type and usage.

TABLE 7**ERIE CITY WATER AUTHORITY - 2001 ACCOUNTS**

<u>Service Area</u>	<u>Domestic</u>	<u>Commercial</u>	<u>Industrial</u>	<u>Institutional</u>	<u>Other</u>
Erie City	31,081	1,959	220	845	839
Harborcreek Township	4,040	195	6	38	26
Lawrence Park Township	1,455	40	3	22	3
Millcreek Township*	9,081	1,119	55	79	50
Summit Township	73	0	0	0	0
Wesleyville Borough	1,057	82	5	8	7
McKean Township	0	1	0	0	0
Total	46,787	3,396	289	992	925

*Includes bulk sales to the Fairview Township Water Authority and the Summit Township Water Authority.

Source: Erie Annual Water Supply Report, 2001 (DEP)

Current water use patterns and usage are as follows:

<u>Type of User</u>	<u>Customers</u>	<u>Average Use GPD</u>
Domestic*	46,787	9,776,308
Commercial	3,396	3,482,866
Industrial	289	8,129,895
Institutional	992	2,745,984
Bulk Sales (To Other Systems)	5	2,538,122
Unaccounted	NA	1,001,553
Other**	589	0
Total	52,058	27,674,728

*In 2001, some 380 non-metered domestic connections were reported.
 **Fire lines

Source: 2001 Annual Water Supply Report (DEP)

In 2001, bulk sales were made to the Summit Township Water Authority (536,537 gpd), the Millcreek Township Water Authority (1,962,818 gpd), and the Countryside Mobile Home Park in McKean Township (38,767 gpd).

The exact service area of the entire network of systems supplied by the Erie City Water Authority is difficult to precisely define. It keeps changing. This is due to continuing development in suburban areas.

Currently, service extends eastward into Harborcreek Township, following Route 5 to Moorheadville Road and then 500 feet south on Moorheadville. On Route 20, service extends to Highmeyer Road, which includes a "loop" connection to Route 5. To the south, water service extends to I-90 Interchanges in Harborcreek and Summit Townships and occasionally beyond. In Summit Township, a standpipe has been constructed at 9670 Peach Street, a point beyond the Great Lakes Basin. (Please see

the Summit Township entry.) In Millcreek, water service is slowly being extended to most of its geographic area. In Fairview, waterlines extend westward along Routes 5 and 20, but do not include the former Fairview Borough. (See plate, Erie Metropolitan Area Existing Public Water System.)

Comments and Recommendations: In October of 2000, the City of Erie Water Authority adopted its Water Supply Plan Update. Based upon that Plan, its previous Plan, and a process of continual system analysis, a 15-year capital budget has been prepared. This budget is a quite detailed document, with four categories. The proposed expenditures by category are:

TABLE 9	
Treatment Facilities	\$38,430,000
Pumping	9,480,000
Transmission and Distribution*	48,912,000
General Plan	<u>8,009,000</u>
Total	\$104,831,000
*Includes 5 subheadings	
Source: Erie City Water Authority	

These figures are 2003 dollars; the total adjusted for future inflation is \$120,960,000.

The Erie City Water Authority Master Plan is a large and complex document, more than 100 pages long, which is undergoing constant analysis, updating, and revision. It deals with many issues. Some are quite obvious, such as system maintenance, rehabilitation, and upgrading. Other issues look at service area expansion, meeting ever-stricter drinking water standards, and fire flow requirements. It is impossible to fairly present an accurate picture of all these needs in this report. Interested readers can contact the Authority for information on this document.

City of Erie - Sewer System
**(Erie City, Lawrence Park Township, Wesleyville Borough, and
Parts of Fairview Township, Harborcreek Township,
Millcreek Township, and Summit Township)**

General Description: The Erie City Sewer Authority owns, and the City operates, the single largest wastewater treatment plant within Erie County. In addition to the City of Erie, treatment is provided to all of Lawrence Park Township, Wesleyville Borough, part of Fairview Township, and major portions of Harborcreek Township, Millcreek Township, and Summit Township. In addition to being the County's largest wastewater treatment plant, it also is unique because of significant industrial flows. Up until 2000, nearly 28 percent of the treatment plant's capacity was taken up by a single industry, the IP (International Paper) plant. However, in 2002, the plant was closed.

In 2001, the plant treated an average of 40.5 mgd, with the organic (BOD) loading averaging about 73,344 pounds daily. Historically, the paper plant waste was over 60 percent of the wastewater treatment plant's BOD loading. Obviously, that will dramatically change in the 2002 operating report.

Technically, the wastewater treatment plant is a secondary treatment facility incorporating phosphorous removal. As noted above, the plant treats both municipal and industrial waste. The plant was designed to keep flows from municipal wastewater separate from the IP waste stream for the primary treatment. The two streams were then combined and, due to the characteristic of the IP flow, it helped remove additional phosphorous. Biological solids are removed through a battery of ten final tanks. Final effluent is disinfected and then discharged into Lake Erie via two outfalls. The original outfall, completed in 1929, consists of a 72-inch reinforced concrete pipe. The second outfall is a 90-inch re-stressed concrete pipe some 8,000 feet in length. It was completed in 1999. Combined, these two pipes can allow an outfall of 165 mgd.

The City's collection system was originally constructed as a combined sewer system. A combined system is one where sanitary waste and storm drainage are both collected. It is estimated that as much as 25 percent of this system is still combined. The Authority's "Chapter 94" Report estimates that some 15 percent to 20 percent of the City's Service Area has roof drains connected to the sanitary system. Catch

basins, storm sewers, and parking lot drains may also contribute water to the City's collection system.

According to that report, the tributary systems (i.e., suburbs) are essentially separated. However, those systems do have infiltration and inflow problems of various degrees, and all have some type of corrective program underway. Over the next several years, these types of actions should help to diminish the Erie plant overflow problems.

Some 6 collection systems are tributary to the Erie City sanitary sewer collection system. The Millcreek Sewer Authority enters the City system at 8 primary points and various secondary locations. Most flows are eventually picked up by the West Side Interceptor. The Millcreek sewer system has 32 lift stations. The Fairview Township and Summit Sewer Authorities use the Millcreek system to transport their effluent to Erie's system. Summit has 13 lift stations, while Fairview has 11. Lawrence Park and Wesleyville also flow into the City of Erie sewer system from municipal collection systems. Lawrence Park has 3 lift stations, while Wesleyville has one. Harborcreek Township feeds into Erie's East Side Interceptor via the 5 Mile Pump Station. In all, Harborcreek has 8 lift stations.

In total, the communities tributary to the City of Erie plant have an estimated total population of 196,463. Over 90 percent of this figure receives treatment.

Capacity: The Erie sanitary sewer treatment plant is permitted at 68.6 mgd for hydraulic flow and an organic loading of 124,000 pounds per day. Their permit limits also require phosphorus removal. In 2001, the average flow was 40.5 mgd and the daily organic load was 73,344 pounds.

Comments and Recommendations: A large and complex system, the Erie area sanitary sewer system can be expected to have continuing problems, including collection, treatment, and outfall. These problems are long-term ones, and their solutions will be costly. In 1989, the City and DEP (then DER) negotiated a consent order to clean up Presque Isle Bay. This means ending all sources of pollution to the Bay and Lake Erie within 20 years. Many of these sources are wildcat sewers connected to storm drains such as the Millcreek Tube. It also requires a reduction of I&I problems to reduce hydraulic overloads at the wastewater treatment plant. These overflows have had both environmental and economic impacts. Presque Isle State Park is the primary tourist attraction in Erie County. Occasionally, overflow episodes have led to the closing of Beach 11. In

1997, the U.S. Department of Justice entered the picture and a Consent Decree was entered into with that agency. The decree called for the previously discussed improvements. Substantial completion has been accomplished on all needed projects, and no permit violations occurred during the monitoring period. As a result, the Authority was released from the decree on November 27, 2001.

Though all municipalities have I&I problems, the Erie City collection problems are probably the most severe. In addition, the City collection system also serves as a conveyance system to transport the wastewater of surrounding communities. Thus, problems with its sewers take on greater importance than those at the system's periphery. To determine the specific actions needed to upgrade the treatment plant and Erie City's collection system, the City's new Act 537 Plan was divided into three phases. Phase I was the Treatment Works and Outfall, Phase II the City Collection and Conveyance System, and Phase III the Millcreek Tube area.

Major work elements under Phase I consisted of a new outfall system and improvements to the treatment plant. The first project is the outfall. It consists of a 72-inch reinforced concrete pipe. Over the years, joints have loosened and allowed leaks. Also, the hydraulic capacity is not sufficient during wet weather loads and plant backups can occur. A new 90-inch outfall was constructed and extended some 8,000 feet into Lake Erie.

Phase I also includes improvements to the treatment plant. This involves increasing primary capacity, an overflow retention facility (ORF), outfall relief and treatment upgrades.

The City has completed construction of the facilities planned in the second phase of their 537 Study. These facilities provide the capacities needed to transport existing storm water flows that had been escaping the City's system and the future flows expected from all tributary municipalities due to population growth. The Phase III Study (Combined Sewer Study) to address the extraneous flows which used to escape the system through the CSO overflows in center City was completed in 1998. Recommendations included: separation of storm flows on Ash, Cherry, Parade, and Holland Streets; construction of relief and replacement sewers on East 4th, Peach to 12th to French, French to Glenwood Park Avenue; and cleaning of the Millcreek Interceptor. These projects have been completed. Separating out storm flows will reduce some of the flow but eliminating overflows will increase flow to the plant. Exact results are difficult to predict.

A final note is in order. The Erie "system" involves seven entities. The plant as well as the east and west interceptors are now under the Erie Sewer Authority. However, the plant is operated by the City. The City collection and conveyance systems (except the east and west interceptors) are the City's responsibility. Yet, unlike other leaseback arrangements, the Erie Sewer Authority is an active body involved in policy issues.

Lawrence Park Township, Millcreek Township, and Wesleyville Borough all own their respective collection systems and directly feed into the City's system. Harborcreek Township also owns its system, and either directly or indirectly flows to the City. Fairview and Summit Townships each owns a collection system which flows through the Millcreek system, to the Erie sewer system.

Similar to the situation with water, the Erie sewer treatment plant is a principal resource to the County. Its capacity will have a major impact on future growth patterns.

Fairview Township - Water System

The Fairview Township Water Authority now owns the former Fairview Borough system. As such, their system consists of two service areas: the former Borough-based area (District 3), and the area (District 1) which basically is an extension of the Erie "Metro" system discussed previously.

The Fairview Water Authority operates a water system which provides 100 percent service to the residents of Fairview Village, an estimated 2,642 persons. Limited service is provided along Old Ridge Road and to the Honey Tree Hollow Subdivision as well as along Route 98 to the GEIDC Industrial Park at the I-90 Interchange.

Capacity and Water Source: This part of the Township system (the former Borough Authority area) provides service to 742 customers. On a typical day, 209,153 gallons of water are delivered.

This is a groundwater system with two well fields. Wells 1 through 4 constitute Field 1, and Field 2 has one well (number 5).

The Fairview system has three storage tanks. The oldest has a listed capacity at 100,000 gallons. In 1996, a new tank with a capacity over 300,000 gallons was

constructed. A newer third tank is located at the GEIDC Industrial Park with a 350,000 gallon capacity.

Service: Current water use patterns and usage are as follows:

TABLE 10		
FAIRVIEW TOWNSHIP WATER AUTHORITY - DISTRICT 3		
2000 WATER USE PATTERNS AND USAGE		
<u>Type of User</u>	<u>Customers</u>	<u>Average Use GPD</u>
Domestic	660	NA
Commercial	67	NA
Industrial	2	NA
Institutional	13	NA
Unaccounted	<u>0</u>	<u>NA</u>
Totals	742	209,153

Source: 2000 Annual Water Supply Report (DEP), Fairview Borough Water Authority

Lineal development is occurring south along Route 98 between Fairview Village and the GEIDC Industrial Park at I-90 and will continue to develop over the upcoming years.



The Fairview Township Water Authority also owns and operates a second system, District 1. Fairview Township is an outer suburb in the Erie Metro area, abutting Millcreek Township. Although primarily a bedroom community, the Township does have significant commercial and industrial development. About 42 percent of the Township's population is served by District 1, with 4,124 persons. Water service in the Township extends along its primary transportation corridors, Route 5 and Route 20. A connecting line between the two is found along Manchester Road. Service

along Route 5, excluding the "Lakeshore" area, extends to the White Hall Village subdivision. On Route 20, the Swanville area and various industries are included. **Capacity and Water Source:** In 2000, the Fairview Township Water Authority reported its average use was 357,611 gpd for District 1. The peak day water use was 732,000 gallons, and the minimum use was 218,000 gallons.

Fairview's system relies upon the bulk purchase of finished water from the Millcreek Township Water Authority. Essentially, this is a transfer from the Erie City Water Authority through Millcreek.

There are no existing water storage facilities in District 1.

Service: Current water use patterns and usage are as follows:

<u>Type of User</u>	<u>Customers</u>	<u>Average Use GPD</u>
Domestic	1,111	219,682
Commercial	39	67,507
Industrial	16	26,178
Bulk	1	10,885
Unaccounted	<u>NA</u>	<u>33,359</u>
Totals	1,167	357,611

Source: 2000 Annual Water Supply Report, Fairview Township Water Authority (DEP)

The listed bulk sales are to small residential systems.

Comments and Recommendations: As a matter of policy, this report does not include detailed coverage on smaller, usually private, water systems. One of the largest of these services is in the "Lakeshore" area of Fairview Township. It has over 300 domestic users and reports an average water use of 80,000 gallons daily. Over the years, there has been some discussion between the Fairview Township Water Authority and the Lakeshore Association relative to the Authority operating that system. However, there has been no definitive resolution of that issue. Reportedly, the Lakeshore system has low pressure. However, a connection to the Township

Authority system would result in an increase of water rates. Evidently, the rate issue has been one of the primary reasons this system has not been absorbed by the Fairview Township Water Authority. This issue should be periodically re-visited.

Fairview Township - Sewer System

General Description: The Fairview Township Sewer Authority owns and operates a collection system only. Some 965 homes are served by the system. It is tributary to the Erie Sewer Authority plant via Millcreek Township. Physically, this system includes the northeast section of the Township. Generally, this is the Swanville section, north to the Lake and east of Walnut Creek. The Manchester Farms subdivision on Route 5 is also served. In addition, there is a main line on Route 20, which extends into Fairview Village, then proceeds south on Route 98 to the GEIDC industrial parks at the I-90 Interchange.

Comments and Recommendations: With the sanitary sewer service extended to the I-90 Interchange, continuous growth for this system can be expected. Much of the land from Route 20 to I-90 along Route 98 is undeveloped and Fairview has seen extensive residential development over the past few years. In addition, service extensions to users in the former borough area is expected. Currently, sewer service is extended on an individual basis. However, service to the entire Fairview village area can be expected within the next five years.

Girard Borough - Water System

The Borough of Girard operates a municipal water system which serves only the Borough. Key elements of the system are as follows:

Capacity and Water Source: The Girard Borough system pumped 106,123,000 gallons of water in 2001. Average gallons per day were 290,747.

The system uses 3 wells for supply. These are the Middle, Mission, and Mechanic Street Wells. Their rated safe yield capacity, respectively, is given as 70,109 gpd and 216,000 gpd, with no rating for the Mechanic Street found. In 1996, a backup well was drilled at the school complex in Girard.

Storage: Girard has 3 covered storage facilities.

TABLE 12

**COVERED STORAGE FACILITIES
GIRARD BOROUGH**

Hathaway Street Water Tank	120,000 Gallons
Walnut Street Stand Pipe	96,000 Gallons
B.D.A. Storage Tank	440,000 Gallons

Source: 2001 Annual Water Supply Report, Girard

Service: Current water use patterns and usage are as follows:

TABLE 13

**GIRARD BOROUGH
2001 WATER USE PATTERNS AND USAGE**

<u>Type of User</u>	<u>Customers</u>	<u>Average Use GPD</u>
Domestic	1,177	250,512
Commercial	129	27,435
Industrial	53	11,805
Institutional	<u>7</u>	<u>995</u>
Totals	1,366	290,747

Source: 2001 Annual Water Supply Report, Girard (DEP)

Comments and Recommendations: No changes are proposed to this system. Borough officials relate they are primarily concerned with serving the municipality, with no plans for service extension.

Girard Borough - Sewer System
(Girard Borough and Parts of Girard Township)

General Description: The Borough of Girard's wastewater treatment plant handles wastewater from within the Borough limits and from a small portion of Girard Township (the Westgate Subdivision with 100 homes and a few commercial properties along U.S. Route 20). Average daily flows for the system were approximately 0.354 million gallons per day in 2001, according to the corresponding Chapter 94 Report. The wastewater treatment plant is currently operating within permit limits for hydraulic and organic loadings.

Capacity: The Girard Borough wastewater treatment plant is permitted to treat 0.99 million gallons per day.

Comments and Recommendations: The system is operated to produce effluent which is consistently in compliance with its NPDES permit. Sludge handling facilities were expanded in 1996 to accommodate the increased solids loadings. Other work included connecting an unused clarifier, putting sludge dewatering facilities on line, the conversion of an idle digester to aerobic treatment and line repairs. Average daily sewage flows at the plant have decreased significantly since 1998 and have maintained a rather consistent level since then. There are no plans to further expand the system into Girard Township, though there are ongoing discussions.

The Borough has indicated its main interceptor to its treatment plant needs to be replaced and has estimated that cost at \$400,000.

Greene Township - Water System

This system has a service area identical to its sewer system. The location is at Kirsh and Hartman Roads. It was formerly a private system.

Capacity and Water Source: There are two small wells that serve as the water source. Average daily water production is listed at 4,589 and 4,121 gpd daily. There is also a 2,500 gallon steel water storage tank.

Service: Some 49 customers, all domestic, are listed for this system. Average daily

use is 8,710 gpd. The population served is estimated at 100 to 150 persons.

Comments and Recommendations: There are currently no plans to extend the system. However, the northwest quadrant of the Township is shown as a potential service area on the Erie City Water Authority Water Supply Master Plan (October 2000). The cost of the needed pumps and storage tank to accommodate Greene Township was estimated at \$1.4 million.

Greene Township - Sewer System

General Description: Greene Township operates a small lagoon sewer system located at Kirsh and Hartman Road, the Horseshoe subdivision. This was a private system and taken over by the Township. The Township also has a small system on Tate Road. That system has been shut down for some time and is not expected to restart.

Capacity: This “Horseshoe” system uses lagoons for treatment (waste stabilization ponds). The NPDES permit is PA 0034045. There are approximately 50 dwelling units served. In their 2001 Chapter 94 Report, the Township noted some problems with duckweed, but felt the addition of an aeration system would resolve at least some of this problem.

Comments and Recommendations: Greene Township has wanted more extensive sewer service for some time. In the Northwest Report, the Township estimated it would cost \$12.8 million to construct the sewer collection system and treatment plant needed to serve their needs. There are ongoing discussions with Millcreek and the Erie Sewer Authority.

Harborcreek Township - Water System

The Township of Harborcreek is served directly by the Erie City Water Authority. Please see the Erie City Water Authority section.

Harborcreek Township - Sewer System

General Description: The Harborcreek Sewer System Authority owns and operates a collection system that discharges into the Erie sewer system. They have two maintenance personnel. Connections are to the East Side Interceptor and a line at the 38th Street and Shannon Road intersection. Current service is to the built-up portion of the Township. Geographically, this area is primarily north of Station Road and west of Troupe Road. Additional service areas are Behrend College (Penn State), Depot Road (to I-90), and the Harborcreek village area. In 2001, Harborcreek extended sewer service to 43 new EDUs.

Since the previous study, Harborcreek has done extensive work on its sanitary sewer collection system. Key improvements included:

- New interceptor capacity for connections with Erie City
- Sewer line extensions
 - Parkside
 - Behrend College to I-90
 - Luxury Drive
 - Kuhl Road
- Improvements at pump stations
 - 5 Mile - increased capacity
 - 6 Mile - variable speed

Capacity: The Harborcreek system is operated by their Sewer Authority. Over 60 percent of the municipality's population is served. The service area is very similar to that of the water system. Please see the Erie Sewer System section relative to treatment capacity. Local line capacity is adequate, though one pump station may need improvement in the future.

Comments and Recommendations: The Township Authority has an I&I abatement program. It reports that due to its sewer rehabilitation projects in 2001-2002, some 1.85 mgd in wet weather infiltration has been eliminated. In addition, past flooding problems at the 5 Mile Pump Station have been eliminated due to the upgrade of its capacity. In the near term, sewers are scheduled on Buffalo Road between Six Mile Creek and Timberline.

Lake City Borough - Water System

Lake City Borough water service extends to an estimated 99 percent of its 2,811 residents. With the case of most well-based water systems, treatment is limited to chemical additives (chlorine). It delivered 93,805,224 gallons of water in 2001.

Capacity and Water Source: According to recent figures, the Lake City water system uses an average of 257,000 gallons per day. It is a groundwater system, and the maximum safe well yield in dry weather is estimated at 1.9 mgd.

Lake City uses three wells as its water source; these are:

TABLE 14	
LAKE CITY BOROUGH WATER SUPPLY INVENTORY	
<u>Well</u>	<u>Yield</u>
101E	46,902,612
101W	46,902,612
103	8,652,100

Source: 2001 Annual Water Supply Report (DEP)

Lake City has one water tank. It was constructed in 1996 at a cost of \$500,000. It is located near the Copes well field and has a capacity of 341,000 gallons.

Service: Current water use customers and usage are as follows:

LAKE CITY BOROUGH		
2001 WATER USE PATTERNS AND USAGE		
<u>Type of User</u>	<u>Customers</u>	<u>Average Use GPD</u>
Domestic	1,013	165,290
Commercial	21	8,751
Industrial	20	42,337
Institutional	3	2,682
Totals	1,057	219,060

Source: 2001 Annual Water Report, Lake City (DEP)

Comments and Recommendations: As is typical with most Erie County water systems, Lake City customers are metered. No problems were reported in its most recent annual water supply report. Though Lake City may consider limited service to contiguous areas of Girard Township, there are no plans for the substantial expansion of this system. In the future, an elevated storage tank of 600,000 gallons is planned.

Lake City Borough - Sewer System

General Description: The Lake City sewer system provides collection and treatment service to the Borough only. Coverage is nearly complete, with only two small streets not on sewer lines. According to the Borough's 2001 "Chapter 94" Report, average flows were 0.417 mgd in 2001. Even in wet weather, flows are below the treatment plant's permit level. Although much of the Lake City collection system is old, I&I problems are not regarded as excessive. Organic loading is reported at 413 pounds daily.

There are four pump stations in the Lake City system.

Capacity: The Lake City plant has a hydraulic capacity of 0.99 mgd and an organic capacity of 1,000 pounds daily. As can be seen in the prior paragraph, the plant is operating well within its permit limits.

Comments and Recommendations: In the Northwest Report, the Borough

indicated a need to replace 11,000 L.F. of older sewer lines and to refurbish the lift stations at Edge Park and Maple Avenue.

Lawrence Park Township - Water System

The Township of Lawrence Park is served directly by the Erie City Water Authority. (Please see that section.)

Service: According to the most current water report, there are 1,455 domestic connections in Lawrence Park, 40 commercial, 4 industrial, 22 institutional, and fire lines. An estimated 100 percent of Lawrence Park's residents are served. As noted, service is provided directly by the Erie City Water Authority.

Comments: No significant changes of service are expected. (Please see the Erie City Water Authority section.)

Lawrence Park Township - Sewer System

General Description: The Township of Lawrence Park owns and operates a sanitary sewer collection system, consisting of 88,000 L.F. of sewer, servicing the entire developed portion of that community. There are three pump stations. In the prior edition of this report, I&I problems were reported along East Lake Road. Problems have been lessened by the Township's aggressive I&I remediation program and a new interceptor constructed by Erie City. In 2001, the Township replaced 280 L.F. of 8-inch sewer on Priestly Avenue. This work included two manholes and laterals. Little new development is expected. (Please see the section on the Erie sewer system.)

Comments and Recommendations: The Township is in the process of completing an 18-month I&I study. In the Northwest Report, the Township noted a need to replace a section of sanitary sewer on Main Street. The cost was estimated at \$2,200,000.

McKean Borough - Water System

The Borough has no current water system. However, they have been working with Millcreek on a possible project to extend water to McKean Borough. The cost is estimated at \$3,000,000.

McKean Borough - Sewer System

General Description: The Municipal Authority of Middleboro owns and McKean Borough operates a small sewage treatment plant for its community. It is described as a single train system. There is only one industry in McKean Borough, but it generates no industrial effluent. Wastewater is generated by domestic and commercial users. We know of no expansion plans by the Borough, and no problems with industrial or exotic waste.

Capacity: Permit capacity is 0.100 mgd per day, with a 170-pound organic loading. According to recent reports, the average hydraulic load is only 0.041 mgd, not even half its rated capacity. In addition, the organic loading is only 40 pounds per day; approximately 25 percent of the permit level.

Comments and Recommendations: The Borough has noted that, due to the treatment plant single-train design, they have not been able to take the system off line for maintenance or to reburish same. To do this, a parallel unit is needed. Cost for this would be \$450,000.

McKean Township - Water System

The Township has been focusing on sewer, not water, needs. However, as previously noted, the Countryside Manor Mobile Home Park is served by the Erie City Water Authority via Millcreek and Summit Townships.

McKean Township - Sewer System

The McKean Township Municipal Authority currently has a system under construction. The service area will extend along West Road from near McKean Borough to the Village of Sterrettania. It also extends along Route 832 To the I-90 Interchange. The treatment plant is being built along the Fairview Township/McKean Township border at Sterrettania Village. Plant capacity is rated at 250,000 gpd and some 1,250 EDUs are planned. The system will have 7 lift stations. It is due to be on line in the summer of 2003.

Comments and Recommendations: As this is a new system, not yet online, no comments or recommendations are made.

Millcreek Township - Water System

Millcreek Township is the largest municipality in Erie County outside of the City of Erie. Water service to its residents is extended to most of Millcreek's developed areas by two providers. The Erie City Water Authority provides direct service to older areas of Millcreek Township which are contiguous to the City of Erie. Newer development is serviced by the Millcreek Township Water Authority. Also, there are two small private systems which supply a few homes each.

In addition, the Authority provides for water transportation from the City of Erie water system for bulk sales to the Fairview Township Water Authority, the Summit Township Water Authority, and a mobile home park in McKean Township.

Capacity and Water Source: The Millcreek Township Water Authority has executed an agreement with the Erie City Water Authority for the City of Erie to supply Millcreek Township with bulk water.

In addition to bulk purchase from the Erie City Water Authority, the Millcreek Township Water Authority owns two wells in Millcreek. One is Yoder Well Number 1; the other is on the McDowell school campus. In 2002, these wells accounted for 8 percent of system water. It also must be noted that the Authority is considering taking raw water from Lake Erie and engineering is being prepared to examine that option.

Currently, the Millcreek Township system has three covered storage facilities. The Asbury Road standpipe has a 1,000,000 gallon capacity, the Bundy Industrial Park standpipe has a 0.5 million-gallon rating, and the Lancaster Road tank has a capacity of 1,000,000 gallons. Another standpipe along Sterrettania Road, near the McKean line, is being considered, and the land for it has been acquired. Preliminary engineering is being completed and construction of the tank should be completed within the next few years.

Service: Current water use patterns and usage are as follows:

TABLE 16

**MILLCREEK TOWNSHIP
2001 WATER USE PATTERNS AND USAGE**

<u>Type of User</u>	<u>Customers</u>	<u>Annual Usage</u>	<u>Daily Average*</u>
Residential	5,829	399,462,000	1,094,416
Multi-Unit	121	74,195,000	203,274
Commercial	297	121,710,000	333,452
Fairview	1	138,435,954	379,277
Bulk Sales	<u>NA</u>	<u>3,720,075</u>	<u>10,192</u>
Totals	6,248	737,523,029	2,020,611

*Annual use divided by 365

Note: This report is from the Millcreek Township Water Authority Annual Operating Summary

Comments and Recommendations: In the 1997 County Study, it was noted that the Township Authority had successfully negotiated a water agreement with the Erie Water Authority; therefore, the Township's needs should be met for some time. It was also noted that the Township was also looking at contingency plans. The Township expects to continue using the Yoder and McDowell Wells (combined yield 180,753 gpd) and is considering the potential of a Lake Erie intake.

Millcreek Township - Sewer System

General Description: The Millcreek Township Sewer Authority owns and operates an extensive sewer collection system which services over 90 percent of its population. This includes the West Lake Road area, central Millcreek, and a good portion of its southern tier. Only scattered rural residential areas are not covered. But, these sectors are slowly being developed and sewerred. The year 2001 was a good example. There was 892 L.F. of new sewer line. This included extensions on Zimmerly, Love, and West 38th Street.

Beyond its sewer line extensions, Millcreek has an active program of line maintenance and I&I abatement. In 2001, their sewer cleaning equipment was used for eight to nine months. In addition, a private contractor cleared roots in 4,800 lineal

feet of line.

Capacity: The Millcreek sewer system conveys wastewater to the City sewer system at 8 separate regional locations and 25 non-regional (boundary) locations. In addition to its own sewage, the Millcreek sewer system transports waste from Fairview Township and Summit Township. (Please also see the comments on the Erie sewage plant.)

Comments and Recommendations: The Millcreek sewer system is a well-run enterprise. It is continually growing, as service to new subdivisions is being constructed. Recent activities include a new Act 537 Study as well as I&I studies for the Kearsarge, South Shore, and East Gore areas. In addition to these activities, there is a downspout connection detection program. Downspouts connected to the sanitary sewer system are required to disconnect. In addition, TV checks for I&I were scheduled for the Sterrettania Road and West Lake Road areas.

North East Borough - Water System
(North East Borough and Parts of North East Township)

The North East Borough Water Authority owns and the Borough operates a water system which services essentially all the Borough and also sells bulk water to North East Township. This water service was originally permitted in 1884. In 1995, the system produced over one billion gallons of water. This is a gravity-fed system. The Borough still has some undersized water lines, but does have a replacement program in place. It has seen an increase of daily use of nearly 20 percent over the past seven years. A "co-generation" plant, recently constructed in the Township for the Welch's grape juice plant, is a primary reason for this increase.

Capacity and Water Source: The North East water filtration plant has a rated capacity of 4,000,000 gallons daily, though it can treat up to 5,000,000 gpd. In 2001, use was as follows:

2,838,260 GPD - Average Use
5,165,751 GPD - Peak Use
1,044,813 GPD - Minimum Use

The North East water system is supplied by a series of three reservoirs and the

Videtto Springs in North East Township. A permit to obtain water from French Creek may be cancelled by DEP. The water filtration plant has a practical capacity of 5 mgd.

Service: Current water use patterns and usage are as follows:

TABLE 17

**NORTH EAST BOROUGH
2001 WATER USE PATTERNS AND USAGE**

<u>Type of User</u>	<u>Customers</u>	<u>Average Use GPD</u>
Domestic	1,547	272,085
Commercial	122	50,574
Industrial	10	1,686,741
Institutional	3	20,480
Bulk Sales	1	375,551
Leaks, etc.	NA	255,872
Other	<u>1</u>	<u>176,957</u>
Totals	1,684	2,838,260

Source: North East Borough 2001 Annual Water Report (DEP)

Comments and Recommendations: In the drought years of 1991 and 1998, the North East system water resources were extremely strained. Total reservoir capacity was reduced by 70 percent and stream resources were not practically available due to low flow conditions. To overcome this problem, the Borough has planned to obtain its water from Lake Erie. This would entail a 3,000-plus foot intake line into Lake Erie as well as 23,000 lineal feet of 18-inch supply pipe and two pump stations. The water will be delivered to the Borough’s water treatment plant. Though the 18-inch line has been built, they require additional engineering and construction funding from PENNVEST. Also needed are permits for the State for water withdrawal from Lake Erie. Currently, final design is anticipated in 2003, with construction to be completed in 2004 or early 2005. Lake Erie is expected to supply 6,200,000 per day when this project is complete. According to the Northwest Report, costs are estimated at \$11.25 million.

North East Borough - Sewer System
(North East Borough and Parts of North East Township)

General Description: Two wastewater treatment plants serve North East Borough as well as portions of the Township. They are identified as Site I and Site II. This system is owned by the North East Borough Sewer Authority but is operated by the Borough on a lease-back agreement. There are three pump stations.

Capacity: Site I is considered to be a pretreatment plant, as all its flow is delivered to the Site II plant via a gravity interceptor for final treatment. Most flows do come originally to Site I. Site I has a hydraulic design capacity of 2.1 mgd and an organic design capacity of 18,769 pounds/day of BOD₅.

Site II treats all Site I flow, plus it accepts flows from other areas in the Borough and Township. Site II has a hydraulic design capacity of 2.1 mgd and an ongoing design of 4,250 pounds/day of BOD₅. Outfall is to Sixteen Mile Creek then to Lake Erie.

Comments and Recommendations: On August 20, 1998, the Pennsylvania Department of Environmental Protection and North East Borough entered into a Consent Decree. This action was due to a series of violations as well as identifying actions to be taken.

According to the Act 537 Plan

- Site II will be expanded to 3.1 mgd.
- Site II will increase its BOD capacity to 6,000 pounds/day.
- Site I will have chemical feed improvements as well as a new aeration lagoon.

The plan assumes Welch Foods will remain a customer of the Borough and abide by required pretreatment requirements. The Northwest Report estimates the needed work for this system at \$10.5 million.

North East Township - Water System

North East Township buys all its water from the Borough. It acquires water at specific take points. The Township water service area consists of 13 subareas. They

also sell water bulk to 3 mobile home parks.

Capacity and Water Source: Average Township daily use is 403,925 gpd; capacity is dependent upon the supply to North East Borough. Township officials have an allocation permit of 500,000 gallons per day from the PA DEP Bureau of Watershed Management.

Service: Current water use patterns and usage are as follows:

TABLE 18		
NORTH EAST TOWNSHIP		
2000 WATER USE PATTERNS AND USAGE		
<u>Type of User</u>	<u>Customers</u>	<u>Average Use GPD</u>
Domestic	965	248,670
Commercial	62	36,280
Industrial	2	99,755
Institutional	9	18,020
Leaks, etc.	<u>NA</u>	<u>1,200</u>
Totals	1,038	403,925

Source: 2000 Annual Water Supply Report (DEP)

Comments and Recommendations: Recent Township water expansion has included Parmenter Road, North Cemetery Road, and east to the I-90 Welcome Center located at the Pennsylvania/New York State Line. Plans to extend service on Middle Road, Dillpark Road, and Lola Lane are currently being considered by the Township.

North East Township - Sewer System

General Description: The Township’s sanitary sewer system is tributary to the Borough’s treatment plant(s). Service generally includes areas contiguous to the Borough. Current Township sewer use on an average annual basis is 0.226 mgd. Some of the developed areas in the Township presently served include West Law Road, South Shore Heights, Loomis Street, Washington Street, as well as Sunset and Orchard Beach lakefront. Service also extends eastward to commercial development

at the I-90 interchange and the Welcome Center at the Pennsylvania/New York State line. Indications are that continued development will occur on the periphery of the Borough. The Borough has recently implemented new fee assessments to the Township for treatment capacity based upon a study completed by an independent consulting firm. This fee arrangement serves to meet all future sewer capacity needs projected for the Township.

Comments and Recommendations: The Township has substantially completed an update to its official Sewage Facilities Plan under Act 537 to facilitate future wastewater needs in the Township. It is likely that existing needs along the Lakefront, East Law Road, Shaddock Road, and Route 89 south of Law Road will require the Township to consider plans to extend public sewer service in these areas.

Summit Township - Water System

The Summit Township Water Authority owns and operates this system. This system has been assured of 0.635 mgd of water as a bulk sale from the Erie City Water Authority from the take point on Kuntz Road in Millcreek Township. Water is transported by the Millcreek Water Authority to the Township line where a meter pit measures its volume. In 2001, the Authority purchased an average of 556,303 GPD from the Erie system. In addition, it has two wells on Rube Road, which had a combined average daily flow of 71,550 gallons when in use.

Capacity and Water Source: Mains are 16 and 12 inches, with a distribution system of 8-inch and 6-inch lines. The service area in Summit follows Route 19 and includes large commercial developments, such as the Summit Town Centre and Keystone Plaza. Service on Route 19 extends to the Lee Road area. Branches include Oliver Road, with its industrial park and the new Bush Industries complex. Service has also been extended eastward along Robison Road to a tank near the border with Greene Township. Service from Robison is then extended north to the I-90 and Route 97 Interchange. Some 1,342 customers are now "on-line." The system operator, an Authority, estimates it serves 27 percent of the Township's residents.

In 2001, the Summit Township Water Authority reported that the total use for the year was 203,050,514 gallons. Average daily water use was 556,303 gpd. The Authority reported a peak daily use of 1,898,000 gpd and a minimum use of 223,000

gpd.

There are three covered storage tanks. The Route 19 storage tank has a capacity of 777,000 gallons. The second storage facility is the Robison Road storage tank. The capacity of the Robison Road tank is 750,000 gallons. A third tank has been constructed south of Lee Road, the Route 19 south tank. This is a 500,000 gallon tank. Please see the Comments below.

Service: The current water use patterns and usage are as follows:

TABLE 19		
SUMMIT TOWNSHIP		
2001 WATER USE PATTERNS AND USAGE		
<u>Type of User</u>	<u>Customers</u>	<u>Average Use GPD</u>
Domestic	1,131	170,778
Commercial	167	344,051
Industrial	10	14,630
Bulk Sales	34	1,095
Leaks, etc.	NA	25,749
Total	1,342	556,303

Source: 2001 Annual Water Supply Report (DEP)

Between 1995 and 2001, this water system saw an increase of 444 customers and delivered 212,487 gallons more a day. The growth pattern is expected to continue.

Comments and Recommendations: Summit Township is situated along the drainage divide between the Great Lakes/St. Lawrence River Basin and the Allegheny, Ohio, Mississippi drainage system. As noted in the Erie Water System, the 1986 Water Resources Act (Federal) generally prohibits water from the Great Lakes/St. Lawrence River Basin from being transported to any other drainage system. Most of Summit's water supply is from Lake Erie. The Route 19 South standpipe was constructed along Peach Street, outside of the Great Lakes drainage area. New wells are outside the Lake Erie Watershed and apparently provide adequate water for customers in that area.

Summit Township - Sewer System

General Description: The Summit Township Sewer Authority owns and operates this system. Generally, the sewer service area for Summit follows two major transportation corridors, Route 97 and Route 19. The Route 97 service area includes the I-90 Interchange with extensions as far south as the Lake View landfill and Marchmont Road. On Route 19, the situation is similar. It includes the Interchange, the Summit Town Centre along Route 19, and residential/commercial areas as far south as the Nissan dealership just past New Road. Another line from the Route 19, I-90 Interchange area follows Oliver Road south, near to the McKean Township line. From the "Five Points" intersection, other lines travel up Hamot and Flower Roads for short distances. Since the 1997 report, service has been extended along Flower Road, Dorn Road, off Edinboro Road, Johnson Road, and Langdon Road. There are 10 pump stations in the Summit system.

Capacity: The system collects sewage and transports it to the Millcreek sewer system. Millcreek, in turn, transports it to Erie where it is treated by the Erie Sewer Authority plant. No problems are known for the Summit collection system. Please see the section on the Erie system relative to treatment capacity.

Comments and Recommendations: The Township appears to follow an aggressive program of service expansion. Publicly funded infrastructure expansions need to be placed in areas targeted for growth.

Union City Borough - Water System (Union City Borough and Parts of Union Township)

According to DEP records, the existing Union City system was first permitted in 1935. Most of the pipe in the system is constructed of cast iron, though about 5.5 miles (estimated) of asbestos/cement pipe was laid between 1950 and 1970. The system essentially serves the Borough, though a few Township users are found along Route 6 and near its water tanks. In 2002, 188,615,100 gallons of treated water were produced.

Capacity and Source: The Union City Water Treatment Plant is rated at 1.3 mgd. Water is obtained from a 100,000,000-gallon impoundment on Bentley Run, known as the Union City Reservoir. The filtration plant is located near the impoundment,

has two settling basins, and uses rapid sand filters. For 2002, average use was 516,842 gpd. Maximum one-day use was 700,600 gallons, while the minimum day pumpage was 378,800 gallons.

Treated water is stored in a 500,000-gallon tank near the treatment plant for distribution. In addition, there are two additional storage tanks in the system, the 500,000-gallon North Tank and the 250,000-gallon South Tank.

Service: Current water use patterns and usage are as follows:

TABLE 20		
UNION CITY AREA		
2002 WATER USE PATTERNS AND USAGE		
<u>Type of User</u>	<u>Customers</u>	<u>Average Use GPD</u>
Domestic	1,107	180,321
Commercial	100	24,882
Industrial	14	110,641
Institutional	26	10,948
Totals	1,247	516,842*

*190,050 gpd unaccounted - about 36 percent of production

Source: 2002 Annual Water Supply Report (DEP)

Comments and Recommendations: There are no unusual problems or situations within the system. Union Township now has only a few users. They are along lines from the reservoir or water tanks. Union City Municipal Authority officials state that serious negotiation to expand water service will likely be delayed until after issues relative to sanitary sewerage service are resolved.

Union City Borough - Sewer System
(Union Borough and Parts of Union Township)

General Description: This system is owned and operated by the Union City Municipal Authority. The sewer treatment plant was originally constructed in 1938. It has been upgraded several times, and functions as a complete primary and

secondary treatment facility with chlorinated effluent. An aerobic sludge digester as well as sludge dewatering facilities have been added to the original 1938 trickling filter plant. Although the system has had an inflow reduction program, it historically has suffered from I&I hydraulic overloads. In 1990, an upgrade of the plant increased its hydraulic capacity to 1.4 mpg, with an organic capacity of 860-pound BOD/day. In 2001, daily flows averaged 979,000 gallons. Thus, the Union City plant is now working within its hydraulic permit limits. In the recent past, the plant experienced some apparent problems with organic overloading. In 1999, the average load was 880 pounds, with a high of 1,085 reported.

This plant primarily services users within the Borough limits, with only 33 customers in Union Township. Capacity to extend collection outside the Union City corporate limits is available. Currently, 15 industries feed into the system; however, there are no industrial effluent problems. It is anticipated that demand will increase in the future and current level of sewer service will not be adequate to facilitate the community's future growth.

Capacity: The current hydraulic permitted capacity at this plant is 1.4 mgd, which is quite adequate to handle the estimated 0.95 to 1.0 mgd flows. The organic permit limit is 860 pounds a day.

Comments and Recommendations: According to the engineer's estimates for Union City, local officials expect a modest annual growth, primarily residential. The Union City sewer system should have adequate capacity for future growth and should be prepared to expand the sewer service to meet the future sewer service demand. The Township's Municipal Authority has its Act 537 Plan under DEP review and does wish to extend its collection system for further service.

Authority personnel relate that an apparent organic loading problems could have been due to incorrect testing results. They are now using a private laboratory and BOD values are within permit limits.

Finally, it must be noted that the system's I&I program continues, with the replacement or repair of key lines occurring annually.

Washington Township - Water System

This system is operated by Washington Township and owned by the Washington Township Sewer and Water Authority. This system was put in place in 1995 at a cost of approximately \$2 million, and was prompted from the "Presque Isle" Superfund hazardous waste site. Primarily, it provides water to a nearby subdivision.

Capacity and Water Source: The water supply is from two wells at the Lakeside Subdivision near Edinboro Lake. The water is pumped from these wells in a single line to a 326,000-gallon ground storage tank on the southeast quadrant of the Interchange of Route 6 and I-79. It serves both the subdivision and some homes along the route as well as some customers in the Lakeside area. There are 147 customers on this system.

TABLE 21			
WASHINGTON TOWNSHIP			
2001 CURRENT WATER USE PATTERNS AND USAGE			
<u>Type of User</u>	<u>Customers</u>	<u>Average Use GPD</u>	
Domestic	127	21,719	
Commercial	15	2,168	
Industrial	0	0	
Institutional	1	1,837	
Other*	4	8,167	
Unaccounted	<u>0</u>	<u>1,174</u>	
	147	35,065	
*Municipal utility use			
Source: 2001 Annual Water Supply Report (DEP)			

Comments and Recommendations: Local officials relate this system was sized to serve the Route 6N/I-79 Interchange area. Also, the storage capacity can be doubled at a relatively low cost.

Washington Township - Sewer System

General Description: The Washington Township Sewer and Water Authority owns and the Township operates, via a lease-based agreement, a wastewater treatment plant on Angling Road. Much of the effluent is generated by homes near Edinboro Lake. Essentially, this is a residential-type operation, and no industrial wastes were reported. It is a relatively new facility, approximately 20 years old. It uses aeration tanks and has two major lift stations. There are about 408 customers served by this system, but they equal 510 equivalent dwelling units. Geographically, the system covers the Lakeside area in Washington Township, Route 6N to the east side of the I-79 Interchange and adjacent land. Washington Township also operates a small sewer plant on Kline Road. This is for a mobile home park. Edinboro provides sewage service to the Hillcrest Subdivision (Route 6N) and Route 99, just north of the Borough line.

Capacity: The system is hydraulically overloaded with a permitted capacity of 0.200 mgd. In 2001, the daily average was 0.186 mgd, though this permitted flow was exceeded in five months, four of which were consecutive. This constituted a hydraulic overload. These occur in wet months, while summer and early fall usually see daily hydraulic volumes well under the permit level. The rated organic loading is 350 pounds a day, and plant operation is in compliance of this limit.

Comments and Recommendations: On September 7, 1999, Washington Township entered into a Consent Order and Agreement with the PA DEP. As a result of this, a Corrective Action Plan (CAP) was submitted with a strategy to reduce system I&I. In September of 2000, the Township completed an I&I rehabilitation project, which was expected to reduce wet weather I&I by as much as 30 percent. A second CAP was submitted as a requirement to a second Consent Order and Agreement dated March 14, 2002.

Waterford Borough - Water System **(Waterford Borough and Parts of Waterford Township)**

The Waterford Municipal Authority owns and operates its water system which primarily is limited to that municipality. It serves an estimated 95 percent of its population, or some 1,540 residents. Water service to Waterford Township is limited to 14 users along Route 97 north to Himrod Road. This project was a result of a specific groundwater pollution problem and not a general service extension. A

landfill owner, whose leachate caused the pollution, negotiated municipal water service to replace individual wells.

Capacity and Water Source: The average daily pumping is 175,000 gallons per day, with maximum one-day output at 322,000 gallons and the minimum pumpage at 97,000 gallons.

This is a groundwater system with two sources. The sources consist of two sets of two wells located in the Borough. Well #2 and Well #4 are used in an alternating schedule to supply the community. Wells #1 and #3 are used as standby. Wells #2 and #4 have an estimated dry weather safe yield rating of 500,000 gallons per day combined.

There is a new 300,000 gallon tank near Fort LeBoeuf High School. Built at a cost of \$312,000, this tank benefits the entire system and increased pressure to recommended fire protection standards.

Service: Current water use patterns and usage are as follows:

TABLE 22			
WATERFORD AREA			
2001 WATER USE PATTERNS AND USAGE			
<u>Type of User</u>	<u>Customers</u>	<u>Average Use GPD</u>	
Domestic	595	92,723	
Commercial	9	16,923	
Industrial	1	614	
Institutional	3	7,999	
Leaks, Etc.	<u>0</u>	<u>56,741</u>	
Totals		608	175,000
Source: 2001 Annual Water Supply Report (DEP)			

Comments and Recommendations: With the addition of a backup well and a new water tank, this system should be in good condition. In some portions of the Borough, both water pressure and fire flows were below desired standards. The new water tank near the high school resolved these problems.

As a large portion of the distribution system was installed in 1909, many water mains are in need of replacement. In the Northwest Report, the Authority estimated that the replacement of waterlines along Cherry and East First Streets to modern standards will cost \$262,000. They also indicated a future need to remove iron and manganese from the water supply, but no cost estimate was given.

Waterford Borough - Sewer System **(Waterford Borough and Parts of Waterford Township)**

General Description: The Waterford sewer treatment plant handles effluent from Waterford Borough residents and a limited number of Waterford Township users. The Waterford sewer plant is operated by the Waterford Municipal Authority. Service in the Township extends along Route 19 south of the Borough, to the Route 97 intersection. Currently, this includes two homes and five businesses.

Capacity: The Waterford sewer treatment plant has a capacity of 240,000 gpd. The plant's yearly flows have remained relatively constant since 1994, averaging 0.164 mgd. The year 1996 was the highest, when average flows equaled 0.2 mgd. The daily flow for 2001 was 0.171 mgd. Of the plant's total capacity, 20,000 gpd is reserved for Waterford Township. The permitted BOD loading is 350 pounds per day. The organic loading (BOD) that has been received at the plant over the past five years, as well as that projected to be received within the next five years, has been well below permitted capacity of 350 pounds of BOD per day. During 2001, an average of 92 pounds per BOD per day was received.

Comments and Recommendations: Waterford Borough expects development of the land in its northeast corner. Waterford Township has seen steady residential growth over the past years and that pattern is expected to continue. Consequently, the Township may request additional treatment allotments in the future.

The anticipated load to the wastewater treatment plant over the next five years is projected to be within the remaining capacity.

In the Northwest Report, the Authority noted it needed to upgrade the Main Street pump station and the sewage treatment plant. However, no cost was given, and this was identified as a future, not immediate, need.

Wesleyville Borough - Water System

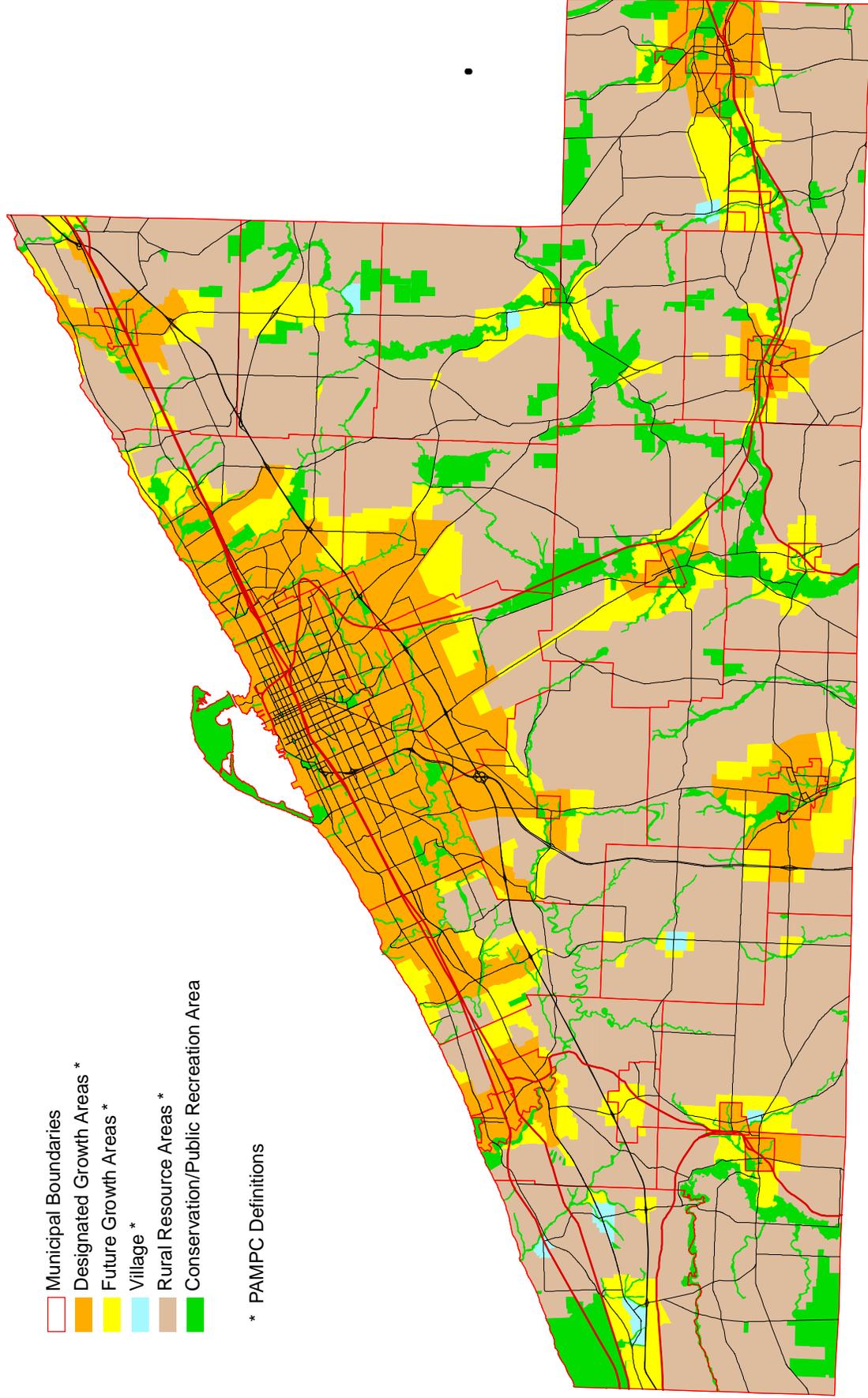
The Erie City Water Authority owns and operates the water distribution system in Wesleyville. (Please see the Erie City Water Authority section.)

Wesleyville Borough - Sewer System

The Borough of Wesleyville owns its sewer collection system which is comprised of 39,400 lineal feet of sewer lines. There are no combined sewers. In 2001, there were no line extensions, but 305 lineal feet of line was replaced on Pearl Avenue. An I&I study was planned for the College Heights area. The system's effluent is transported to Erie City for treatment.

Comments and Recommendations: This appears to be a well-operated system. However, ongoing line repair/replacement will be needed.

ERIE COUNTY PLANS FOR LAND USE & COMMUNITY FACILITIES



THE COMMUNITY FACILITIES PLAN

On the plate that follows this page is the Erie County Land Use and Community Facilities Plan. It is designed for a 20-year period. This Plan represents a drastic change from historic planning for Pennsylvania counties by fully embracing the innovations provided by Act 67 and Act 68 of 2000, which so dramatically modernized the Pennsylvania Municipalities Planning Code. This new approach does not attempt to overlay detailed local land use policy with a County-imposed model. Rather, it foregoes the traditional approach. And, because of this concept, this Plan serves two functions. First, it is a Land Use Plan; and second, because it defines where growth is to occur over the next 20 years, but it also serves as an important element of the Community Facilities Plan, primarily for the planning of future water and sewer services.

This Plan is also unique because it represents a true consensus. The Erie County Department of Planning not only conducted a citizen survey and had 10 Citizen Forums for general input, which resulted in a reference document entitled The Erie County Citizen Survey (March, 2002), the Department also participated in 16 sessions with Erie County municipalities to review the Land Use and Community Facilities Plans.

As this approach uses specific terms, it is well they should be defined, and these definitions are set forth below:

Designated Growth Area: A region within a county that includes and surrounds a city, borough, or village, and within which residential and mixed-use development is permitted or planned for at densities of one unit to the acre or more; commercial, industrial, and institutional uses are permitted or planned for; and public infrastructure services are provided or planned.

Future Growth Area: An area outside of, and adjacent to, a designated growth area where residential, commercial, industrial, and institutional uses and development are permitted or planned at varying densities and public infrastructure services may or may not be provided, but future development at greater densities is planned to accompany the orderly extension and provision of public infrastructure services.

Village: An unincorporated settlement that is part of a township where residential and mixed-use densities of one unit to the acre or more exist or are permitted and commercial, industrial, or institutional uses exist or are permitted.

Rural Resource Area: An area described in a municipal or multi-municipal plan within which rural resource uses, including, but not limited to, agriculture, timbering, mining, quarrying, and other extractive industries, forest and game lands and recreation, and tourism are encouraged and enhanced, development that is compatible with or supportive of such uses is permitted, and public infrastructure services are not provided except in villages.

Conservation/Public Recreation Area: These are major public-owned recreation facilities, such as Presque Isle State Park, State Game Lands, major parks, along with major stream corridors/floodplains.

The County Community Facilities Plan is graphically set forth on the plate following this page. To a large extent, the map speaks for itself. The County's policy is quite straightforward:

- ▶ The rehabilitation, creation, or extension of community water and sewer facilities within Designated Growth Areas, Future Growth Areas, and Villages will be considered consistent with the County Community Facilities element of the Comprehensive Plan.
- ▶ Rural Resource Areas are not designated for service by community water and sewer facilities.
- ▶ Conservation/Public Recreation Areas generally do not need water or sanitary sewers systems.

IMPLEMENTATION

The Planning Department of Erie County intends to implement this Plan using the following techniques:

1. Review Procedures: Under Article III of the Pennsylvania Municipalities Planning Code, the County is charged with: providing guidelines to promote general consistency with the county comprehensive plan [301.4(b)] and reviewing the comprehensive plans or amendments of local municipalities [301.2) and 301.3]. These consistency reviews will be conducted in the same cooperative fashion that was followed in the preparation of this Plan. As the Community Facilities Plan is a key element of the Erie County Comprehensive Plan, any submission for review and comment by the County will be measured against this and all other elements of the Plan. This practice will include the review of land use ordinances as well as appropriate elements of the comprehensive plans.
2. Support: As noted on the prior pages, those water and sewer projects that are consistent with this Plan will be supported by the Erie County Department of Planning. This support will consist of issuing a “Letter of Plan Consistency” to more active support as needed (i.e. additional letters of support, contacts with key agencies, etc.). For those projects not complying with this Plan, the Erie County Department of Planning will issue a “Letter of Non-consistency.”

GOVERNMENT SERVICES

Erie County: The County of Erie is a multimillion dollar operation. County government, as an arm of the Commonwealth of Pennsylvania, is responsible for numerous programmatic responsibilities relating to the health, safety, and welfare of its residents. The County is also directly responsible for the physical upkeep of structures which house these governmental services.

Currently, the County's structural inventory appears essentially sound. It is important, however, that the County's physical plant needs are addressed in a uniform approach. County government does, after all, own or lease nearly two dozen structures.

An Erie County Capital Improvement Program: How can the needs of the County's various departments be handled in a methodical and responsible manner? There must be organization, method, and protection.

**The first requirement
for Erie County is to complete
physical evaluation of
its buildings.**

For Erie County, the first requirement is to complete a physical evaluation of the adequacy of its numerous buildings. Such a study should include:

- Structural condition
- Use
- Building Exterior
- Roofs
- Electric services
- Plumbing
- Heating, ventilation, and air conditioning
- Elevators
- Special features (computer wiring, communications, etc.)

Once the physical inventory is completed, needed projects can be separated into two categories. For the purpose of this document, all needed repairs under \$50,000 can be included in a Maintenance Plan. That plan should identify both needed projects and establish a preventive maintenance program. It should have a five-year horizon and be updated annually.

Without a preventive maintenance program for all of its facilities, the County will face reoccurring crisis in the management of its physical plant. This type of environment would generate such unexpected demands upon the County Budget that the Capital Improvement Program (CIP) process will be of little value.

What is a Capital Improvement Program? Typically, a CIP sets forth a program of expenditures over a set period of time. These expenditures are for real estate (land, buildings, building expansion, equipment, etc.), major maintenance endeavors, and significant physical items as rolling stock. It is not an operating budget. A CIP usually has a 5-to-10-year horizon. Its principal idea is to identify needs, rank projects, systematically complete them, and annually re-evaluate the program. Through the annual process, new projects may be added or existing ones re-evaluated. Of course, the entire program is constrained by fiscal reality. How much does Erie County have to spend? Can it borrow money? Can it afford the debt service for any such borrowing? To ignore such a process is to invite expenditures by crisis, not by plan.

Projects which will cost more than \$50,000 should become part of an Erie County Capital Improvement Program. The larger maintenance projects would be only one aspect of such an effort. New buildings, major building renovations, as well as larger machinery and equipment purchases over the \$50,000 limit would also be included in the CIP. A CIP undertaking involves considerable work; but, it is worth it. Such a device can help stabilize budgets and prevent unexpected crises. There are certain basic steps to a Capital Improvement Program, and they are outlined as follows:

1. Developing a CIP File. Again, only projects of \$50,000 or more should be included. Initially, that file could be broken down into the following categories:

- Building Maintenance and Repair
- Furniture
- Machinery and Equipment
- Remodeling and Expansion
- Property Acquisition
- New Construction

Such information should be assembled on standardized forms, using the best cost estimates available. Typically, catalogs, vender quotes, contractors, and engineers/ architects can assist in this effort. A typical CIP form is found on the next page.

2. Project Evaluation. Each of the CIP candidate projects must then be evaluated. To be successful, the evaluation process should be objective and uniformly applied. There are various evaluation processes, and they focus on the urgency of the project’s need.

Conventional wisdom suggests a four-tier approach based upon need. Project categories, by priority, are:

Essential: Projects absolutely essential for public health, welfare, or safety. Projects where the County is under an official “mandate” to complete same. Projects needed to make an existing major public facility usable.

Desirable: Projects which benefit the entire County.
 Phased projects whose implementation date has arrived.
 Projects to keep the County attractive or economically competitive.

Acceptable: Planned but not absolutely required.

Deferrable: Poorly planned projects or projects with serious doubt relative to County need or benefit.

ERIE COUNTY CAPITAL IMPROVEMENT PROJECT SHEET

1. Department _____
2. Contact _____ 3. Phone Number _____

4. Title, Type, Description, and Location:

5. Reason, Benefit:

6. Current Status:		Cost Estimate*	
New proposal	_____	Engineering	_____
Design stage	_____	Construction	_____
Land acquisition	_____	Machinery and equipment	_____
Site improvement	_____	Contingency	_____
Actual construction	_____	Property acquisition	_____

7. Project Expenditures by Year: *Source(s) of Estimate(s)

First year \$ _____
Second year \$ _____
Beyond second year \$ _____

8. Suggested Source of Financing:**

**Summarize any special requirements of funding source possibilities.

9. Effect on Annual Operating Cost After Completion:

Change in personnel force (yes/no): _____ How many? (+ or -) _____
Salary and wage cost per year: \$ _____
Contract maintenance costs: \$ _____
Other costs: \$ _____

RMS

Such a list of priorities is similar to those presented in Capital Improvements, Planning and Budgeting (formerly the Pennsylvania Department of Community Affairs – note, this publication is now out of print). There are other formats which other sources suggest. However, they all seem to follow a similar approach. To the initial prioritization, an additional set of criteria should be added which includes:

Economic

Feasibility: No matter the need, can the County afford this project?

Operating

Maintenance Cost: How much will operation and maintenance costs be - can those costs be absorbed?

Potential for

Assistance: Are programs for financial assistance available for this project?

As Erie County is a large multi-departmental municipal operation, competing factors necessitate that a formal, point-oriented, ranking system should be used.

3. Fiscal Analysis. To begin a CIP process, revenues and expenses over the past five years must be examined. These are to be broken down into General Fund money and special purpose accounts where the use of revenue may be restricted. In addition to the grant funds normally received by the County, this section should also evaluate other possible grant resources. The primary purpose of the Fiscal Analysis is to determine how much money will be available for both the CIP, possible CIP debt service, and the preventive maintenance program.

A second portion of the Fiscal Analysis is current debt. This current debt needs to be evaluated relative to the County's borrowing base. The Pennsylvania Constitution, the Unit Debt Act, as well as Erie County's Home Rule Charter must be consulted in this process. Remaining debt capacity as well as the advisability of additional borrowing must be analyzed. Obviously, the issue of future debt service is important.

4. Preparation of the Capital Improvements Program. This element combines all of the previous segments into a single document, which sets forth projects by priority, and by year, consistent with the annual budget capacity and possible new debt.

Obviously, the preceding is just a brief overview of a CIP program. It is a demanding, perhaps tedious and sometimes contentious effort, but one which Erie County genuinely needs to consider implementing.

This process is not a mere exercise in estimates and bookkeeping. Capital budgeting is also a political process. To be truly successful, it certainly must be technically sound and financially responsible, but it also must be politically acceptable. As such, the participation of key elected officials in the entire CIP effort is necessary

**The needs of Erie County's
municipalities are essentially in
two areas, the physical
plant and rolling stock.**

Local Municipalities: According to a survey input, the needs of Erie County's municipalities are essentially in two areas, the physical plant and rolling stock. Physical plant needs can, again, be divided into two categories. These are repair and expansion. On numerous survey forms, local officials pointed to the need of a new roof, a meeting room, covered maintenance areas, or storage facilities. Rolling stock requirements varied from such big-ticket items, as graders, to more mundane vehicles, like pickup trucks.

There are indeed some exciting possibilities suggested by an examination of municipal needs. A host of possibilities is immediately suggested; it includes:

1. Joint purchase or rental of expensive equipment to be shared on a pro-rata basis by participating jurisdictions.
2. A pooling of maintenance personnel, or the negotiation of multi-municipal maintenance agreements with the private sector.

3. Formal inter-municipal loan programs of equipment at a reasonable level for all participants.
4. Shared meeting facilities.

Suggestions are great, but, how do they achieve implementation? Historically, each community has handled their individual needs alone or has competed for limited grant money.

But there are better ways. Councils of Governments (COG) throughout Pennsylvania have often focused their efforts on joint purchasing with successful results. Gasoline, diesel fuel, vehicles, salt, road paint, etc. can be purchased at considerable savings to participants. Other suggestions such as maintenance, equipment sharing/rental, and revolving loan pools are all elements which could be addressed by a COG, or a series of COG organizations. It is obvious that this approach, though cumbersome, can provide lasting economic benefits to participating governments.

Other options do exist. The consolidation or merger of local governments can be a viable option. St. Marys Borough and Benzinger Township (Elk County) consolidated into the City of St. Marys in 1994. Locally, East Springfield Borough merged with Springfield Township in 1979, and Fairview Borough and Fairview Township consolidated in 1998. All of these efforts were time consuming and at least somewhat difficult, but have resulted in long lasting partnerships that are durable, effective, and economical.

RECREATION PLAN

Traditionally, Recreation Plans concentrated on the physical element. The usual approach was to inventory resources that were available, refer to some type of national or state standard, and determine if the available resources were adequate to meet the population within the planning region. The next step was to examine the physical location of particular parks, playgrounds, ball fields, etc. and to determine their effective service area. After the necessary arcs and circles were struck, the regions outside of these service areas were judged to be deficient in one or another activity.

The problem with the preceding approach is that it does not take into consideration the dynamics of the planning area's population, its changing taste, or even the difference between urban and rural recreational needs.

**Current recreation
planning is much more
sophisticated than twenty
years ago.**

Current recreation planning is much more sophisticated than that of even twenty years ago. The National Recreation and Park Association now recommends a three-stage recreation planning process. These three stages are:

- Create a Policy Plan
- Complete a Physical Concept Plan
- Develop an Operations and Maintenance Plan

Of these, the Policy Plan is the most complex effort. It sets the stage for the next two elements. It includes the traditional measuring of resources against objective standards. But, it also looks at the age characteristics of the population in the service area, their activity preferences, the current use of facilities, opportunities for cooperation, and special influences. Only when the Policy Plan is completed can the final two elements be finished. The most familiar is the Physical Concept Plan. This is composed of schematic drawings for proposed new parks or for the improvement

of existing facilities. Suitable narrative and financial information are other essential elements of the Concept Plan. The final element is an Operations and Management Plan. This covers the critical elements of how the park system will be operated and addresses operational budgets.

**Maintenance
is the single most important
element of an established
park system.**

This modern approach can be seen in the 1993 “New Horizons” Park Plan for Erie City. There are some eight goals which the Erie Plan sets forth. Only one of these deals with the actual development of new or improved park and recreational facilities. Interestingly, the first goal was to "sell" recreation as an essential service to Erie's citizens. Another key element was maintenance. Maintenance is the single, most important, element of an established park system. Likewise, the Park Plan recognized the fact that recreation is not merely a playground for children, but is important to neighborhoods and for older citizens. Recreation even has an economic impact. Other ideas included the development of partnerships. These include partnerships with the private sector, clubs or organizations, schools, individual neighborhoods, and other municipalities. Locally, the Tri-Community Pool Complex in Harborcreek is an excellent example of such a partnership.

A County Plan, by its very nature, cannot hope to address all these aspects. First, the County no longer is actively "in the recreation business." Therefore, it must view the role of this Plan somewhat differently. Erie County's purpose is not to identify gaps in recreational resources and to suggest that municipalities build specific facilities. Rather, it is to look objectively at the County's recreational resources in total, examine how these resources are provided, and suggest ways to improve both the resources and the delivery of recreation in the future.

The Erie County Recreation "Market"

Before the matter of the adequacy of facilities are even examined, it is necessary to "set the stage" relative to the demographics of Erie County. The 2000 Census reported that approximately 29 percent of the County's population was below the age of 20, 20.0 percent was aged 20 to 34, 37 percent was aged 35 to 64, while 14.0 percent of its population was 65 years of age or older.

An examination of historical trends shows obvious demographic changes taking place, both with percentages and raw numbers. That trend is that the age group under 20 is decreasing both numerically and as a percentage of the total population; the young adults, the 20 to 34-age group, will remain below the 20 percent bracket; and the 35 to 64-age group is growing, both in numbers and percentages. The older citizens, 65 and older group, will grow.

This Plan must look toward the future. The current trend population projections for the year 2020 shows that only 23.4 percent of the population will be under 20, about 18 percent 20 to 34, while the 35 to 64 bracket will be over 38 percent, and the 65 and over will be nearly 18 percent. Perhaps, it is better to look at these figures directly.

TABLE 23								
POPULATION PROJECTIONS - ERIE COUNTY CURRENT TREND SCENARIO, AGE GROUPS								
Age	1990	%	2000	%	2010	%	2020	%
0-4	19,973	7.2	17,440	6.2	16,975	6.0	16,314	5.7
5-19	62,349	22.6	62,652	22.3	54,607	19.2	50,602	17.7
20-34	64,717	23.5	55,644	19.8	60,869	21.4	58,450	20.5
35-64	90,508	32.8	104,851	37.3	111,849	39.3	109,541	38.3
65	38,025	13.8	40,256	14.3	40,514	14.2	51,137	17.9
Total	275,572	100.0	280,843	100.0	284,814	100.0	286,044	100.0
Source: Erie County Demographic Study, 2003								

This trend is quite easy to see. Total population increases, while the two groups

comprising the under 20 ages combined see a continuous drop; the young adults (20-34) show an overall decline, while the Baby Boomers stay relatively stable since the year 2000; and the seniors will have a substantial increase. Obviously, there is only one age group; the senior sector was projected to experience significant numerical gain. Most recreation plans place their emphasis on serving those under 20 years of age, while they give limited attention to the needs of residents who are over 35 years in age. The focus on recreational improvements should change to reflect current demographic trends.

Adequacy of Facilities

Inventories of public recreation resources in Erie County were made to obtain "ballpark figures" of existing resources and determine their adequacy, countywide. For this Plan, the yardstick for adequacy was found in the Recreation Park and Open Spaces Standards and Guidelines (1993), produced by the National Recreation and Park Association. A recreation inventory was part of the 1998 Plan. Existing facilities were divided into six general categories.

The first element was play fields. Play fields include those for baseball, softball, football, and soccer. The remaining sectors were outdoor basketball courts, tennis courts; playgrounds; golf courses; and swimming pools. How does Erie County recreation measure? According to National Standards, Erie County should have approximately 100 play fields of various types. When baseball, softball, football, soccer, and similar fields are totaled, some 273 facilities were counted, over twice that standard.

The next subject was outdoor basketball. Because of inventory limitations, it was difficult to discern half-court versus full-court outdoor basketball courts; but in most instances, the half-court facility seemed to be favored in the County. National Standards suggest that 275,000 people would require 55 such facilities. In Erie County, they totaled 85.

Tennis appeared to be the only area where a deficiency in public resources was apparent. Once more, the National Standards suggest 130 courts should be available, where only 107 were counted in the inventory. Though, it should be noted that the inventory did not include private facilities, such as found at local country clubs.

Golf courses were quite the reverse. National Standards suggest 16 courses (both 9 and 18-hole) would be adequate for Erie County, where the count showed at least 24 courses available.

For swimming pools, 14 are needed per population count. The County of Erie Health Department inspects swimming pools, and reports there are some 128 public pools. Of course, Presque Isle, Edinboro Lake, and to a lesser extent, Lakes LeBoeuf and Pleasant provide additional natural swimming opportunities. Once more, the County's total resources appear abundant.

Finally, playgrounds. Playgrounds are the typical facility most visualize when thinking about recreation. Here, the supply and the perceived need were very close. Fifty-five playgrounds should be provided in an area as large as the County; some 59 were counted.

These figures must be taken with the proverbial grain of salt. As noted, the Plan inventory did not typically include private clubs, private schools, or facilities not generally accessible to the public. Consequently, the effective existing inventory may exceed that which was developed. Conversely, there were no spatial measurements. Thus, a resident in Erie City may have a pick of tennis courts, while a player in Greenfield Township would have a long drive. Likewise, inspected pools include motel facilities, not truly available to the general public.

**There are a great
number of recreational
resources available to the citizens
of Erie County.**

It is very apparent that there are a great number of recreational resources available to the citizens of Erie County. The accompanying Erie County Recreation Facilities Map highlights the more significant public and private parks, State Game Lands, and education-related facilities.

There is also no doubt that most of the recreational resources, which are either public or associated with schools in the County, are oriented toward the younger citizens. Finally, it must be kept in mind that the standards and resources are traditional ones,

while recreation interests change. In the 1970s and the 1980s, tennis was a very popular sport. In the 1990s, tennis courts are not nearly as frequented as they were in the past. Conversely, rollerblading and skateboarding, unheard of in 1970, are now popular with young people.

Policy Recommendations

The foregoing conclusions suggest certain policies:

1. ***Recreation resources must be planned for the total community and not just those under 20.*** In the 1980s and 90s, lifestyle changes became apparent. A renewed interest in physical fitness and conditioning was apparent for all ages. Though the mature adult of the 1950s may have considered recreation for him or herself limited to golf and bowling, the contemporary generations think nothing of rollerblading, kayaking, running, biking, or hiking. The Countywide inventory suggests many categories of recreation have sufficient resources. Yet, newer pursuits, or those aimed at mature users, are in short supply. Specific needs include:
 - Paved, multipurpose trails to be used by hikers, walkers, runners, bikers, and skaters.
 - Unpaved, walking and hiking trails in natural terrains designed for wildlife enthusiasts, birders, and walkers.
 - Dedicated facilities for skateboarders, in-line skaters, and related activities.
2. ***Recreation needs are not defined in books but by the marketplace.*** For this Plan, that market is the 280,000 plus citizens of Erie County. Not only do the demographics of the marketplace need to be measured, but surveys have to be compiled for any recreation effort to be successful. These surveys should be done in two separate ways. One is to survey existing recreation sites to determine their utilization. What activities are popular, who are using the resources, and do current recreational participants have unmet needs? The second is a survey of the total population to see the preferences and desires that the citizens, as a whole, have in the field of recreation. A typical survey of this

nature is found in the Appendix of this Plan. Any new recreation facility plan must include evidence that proposed projects meet needs that have been clearly expressed by potential users and are not derived by merely applying some type of national or state standard.

3. ***Cooperative Planning:*** Any examination of recreational facilities in Erie County leads to the conclusion that cooperative planning is not a current priority for most communities. The Tri-Community Swimming Pool is an exception, not the rule. Yet, that facility demonstrates that cooperation makes sense. Furthermore, school districts, more and more, are providing recreational facilities. Municipalities must examine the role of schools. This is especially true in servicing school-aged children. The duplication of resources by a municipal park that may already exist at a school site is unsound planning and poor fiscal management. Regional, multi-municipal, school district cooperation must be the norm in the new recreation planning process.

4. ***Partnering:*** To be successful, communities must look beyond the traditional municipal funds and State grants. From a planning, and financial standpoint other groups must be involved. These include:

- Local businesses and corporations
- Charitable trusts and foundations
- Clubs and organizations
- Neighborhood groups

Often, these “other” sources allow more flexible use of funds with fewer restrictions. Another obvious idea is to acquire outside money for park maintenance and recreational programming.

5. ***Spatial Concerns:*** Even a cursory examination of recreation in Erie County demonstrates that current public facilities are concentrated along the Lake Plain, along the I-79 corridor, and in such areas as Albion, Corry, Cranesville, Union City, and Wattsburg. In the balance of the County, the primary resources are found at schools or private institutions. Generally, this pattern does follow the current and expected population concentrations of Erie County.

6. ***Recreation Plans must contain provisions for operation and maintenance.***

The lack of attention to this critical aspect in the past has resulted in substantial problems in Pennsylvania communities. It must be a part of all future planning. To be successfully used, park systems need programs and must be maintained.

All of these policies will mean little without implementation. Erie County should not force local communities to follow these policies, but certainly can act as a catalyst in their realization, as follows:

1. ***The Review Process:*** Municipal comprehensive plans undergo County review. Such plans contain a recreation element. The six standards listed above must be applied to all new comprehensive plans.
2. ***Technical Assistance:*** The County's technical staff should be available to municipalities in their park planning endeavors. The County's role should be that of an advisor, a supplier of data, and reviewer in recreational planning efforts.
3. ***Incentive Grants:*** Erie County should consider a County bond issue for recreation. Such funds could be used as a match for State recreation grant programs as well as providing incentives for inter-municipal, and municipal-school districts joint recreation efforts.

Even though this Plan has focused upon the County's role in recreation and how it interacts with municipalities, there are other recreational facilities which must be examined:

- Presque Isle State Park - This park is a unique recreation resource for the residents of Erie County as well as the keystone for the local tourist industry. In recent Capital Budget processes, Presque Isle State Park has requested millions of dollars for park improvements. If Presque Isle is to remain a world-class attraction, the County's political support of key projects at this park is a must.
- Six Mile Creek Park - The gorge of Six Mile Creek has been identified as an area of exceptional environmental quality. Though the County is not actively engaged in recreation, it should consider adding to its property holdings in this area. Such a move would further preserve an important natural area. The County should also consider professional management of

the park in the future.

OTHER COMMUNITY AND CULTURAL FACILITIES

Although Other Community Facilities cover a wide range of activities and physical facilities, their primary mission is aimed at social, cultural, and religious services.

Other community facilities cover a wide range of activities and of physical facilities. Primarily, their mission is aimed at social, cultural, and religious services.

It is interesting to note that many institutions perform a multitude of functions. Neighborhood centers often provide social, health, and educational services. Of course, much of this is supported by public funds. Many of these services have facility needs. To evaluate and offer positive support for such efforts, the coalition approach is suggested.

Conversely, the County's many religious groups are not directly supported by taxpayers; yet, they also serve the community at large. Schools, day care centers, and meeting facilities are just a few vital roles played. Often, these activities are at a reasonable cost to the user. And, their provision lessens the demand upon other facilities. Take day care services as an example. If an average of 20 children is found at each of the 34 sites, nearly 700 children are being accommodated. At private market rates, such service would cost nearly \$4 million. Typically, church-related operations will be at 70 percent to 80 percent of that figure.

It is beyond the scope of this report to prepare a detailed plan for social and cultural organizations in Erie County. Yet, these efforts are expensive and typically are experiencing reduced funding. Such agencies as the United Way, GECAC, and the Erie County Department of Human Services must face the task of creating more efficient ways to provide needed services.

Cultural Projects: In addition to traditional municipal projects, there are other semi-public organizations which have important facilities that are vital to the County's

future. This section highlights these resources.

Downtown Erie, in particular, is striving to become a tourist-entertainment attraction. And, as such, has embarked upon an ambitious program of improvements to, and additions for the area. There are various facilities that are supported by Erie City, though they are corporately separate only.

- The Louis J. Tullio Arena was opened in 1983 and accommodates trade shows, conventions, and meetings. In addition, the facility can house concerts, ice shows, hockey, and circuses. The hockey team, the Erie Otters, are headquartered here.

The arena has 5,500 permanent seats, a possible 30,000 square feet of exhibition space, and private meeting rooms.

Recently, a consortium of three consultants completed a master plan for the Arena, with a \$25 to \$30 million price tag. Phase 1 will begin this year (2003). Highlights of improvements include:

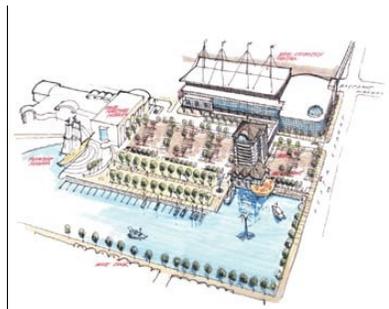
- Expansion of seating (up to 7,000 for concerts)
 - Additional sky boxes
 - Team stores
 - A re-designed exterior with a true gateway
 - Revised parking
 - Expanded interior spaces
- Jerry Uht Ballpark: Located at 10th and French Streets in Erie City, this facility is physically next to the Tullio Arena. It is a 6,000-seat ballpark, home to the Erie Sea Wolves, a double AA baseball team. In the upcoming years, the park will convert some of its bleacher area to grandstand seating. Other bleacher areas will be changed to a double-deck picnic area. Total seating capacity will remain the same.

- The Warner Theater: Opened in 1931, this facility is truly a movie palace. Now it hosts Broadway shows, the Erie Philharmonic, the ballet, and similar cultural events. There is seating for 2,500 persons. Furnished and decorated in an art-deco motif, the facility has an ongoing ambitious restoration-improvement program with an estimated cost of \$13 to \$14 million.

Restorations and Improvements:

- Repair and repoint masonry and terra cotta reliefs
 - Restoration of the marquee
 - Clean, repair, and repaint interior surfaces (underway)
 - Replace draperies, tapestries, and carpets (underway)
 - New seating facilities
 - New HVAC systems
 - Elevators
 - Improvements to the stage area and its appurtenances. One of the primary changes will add 15 feet of depth to the stage, greatly enhancing the Warner's ability for stage and Broadway shows.
- Bayfront Convention Center: Not yet open, this proposed convention center will be located on Erie's bayfront, in the former Penelec power plant site. The facility now has a price tag of \$43 million. Much of that amount is to be received from the State's Capital Budget. If all goes according to plan, this facility will be open July of 2006. Key features of this facility include:

- Total size - 113,500 square feet



- Exhibit hall - 29,000 square feet
- Banquet hall and ballroom - 13,500 square feet
- Parking spaces - 652
- The Erie-Western Pennsylvania Port Authority has a three-segment improvement plan, including industrial, commercial, and recreational developments. Highlights include:
 - Dry dock and ship yard improvements – at Metro Machine of PA, Inc. (\$6 MM)
 - Deep water ship improvements – Mountfort Terminal
 - Ore dock access road
 - Lampe Marina Campground (Phase 1)
 - Transient boating facility
 - Erie Land Lighthouse restoration (approximately \$450,000)
 - Bayfront trail head facility
 - Liberty Park fishing pier
 - Cascade Creek wetlands park
 - Pedestrian bridges at Liberty and Hollard Streets
 - Overlook park
 - East Dobbins Landing (an adjunct to the Bayfront Convention Center)
 - Bayfront Center for Maritime Studies (\$1.5 million)

- The Erie Zoo: Founded in 1924 as a city function, this facility is now operated by the Erie Zoological Society. As a member of the American Zoo and Aquarium Association, it is the only such accredited facility in northwest Pennsylvania.

Recently, the “Zoo” has changed its name to the Zoological Park and Botanical Garden of Northwestern Pennsylvania to reflect both its function and audience.

This facility is located in Erie City, on West 38th Street, by Glenwood Park Avenue. Its 15 acres feature an extensive animal and plant collection as well as a carousal and train ride. Their most recent physical improvements feature improvements to the Children’s Zoo.

- Discovery Square: Discovery Square is a partnership among the Children’s Museum, the Erie County Historical Society, and the Art Museum. Physically, these facilities are located in Erie City on a block between State and French Streets, from Fourth to Fifth Streets. In 2000, Michael Graves and Associates completed a master plan for this complex. However, since this plan was developed, some circumstances have changed and proposed improvements in the upcoming phase will not involve the Children’s Museum or Historical Society. The next project will involve a building connecting the three museums with common facilities such as:

- Education center
- Lobby
- Gift shop and café
- Electric horizon theater

The cost of the undertaking is estimated at \$18 million, and funding is now being sought.

EDUCATIONAL FACILITIES

For a county of its size, Erie is fortunate to have a wide variety of educational resources. Its collegiate and university schools provide bachelor, master, and associate programs to over 16,000 students. The recently founded CAMTECH (Center for Advanced Manufacturing), is providing an important link between basic "Vo-Tech" training and the ever-changing requirements of today's economic marketplace. Likewise, the various other technical and trade schools offer employment-linked training.

Yet, these educational resources have needs. For example, in an 1998 Capital Budget review, the Behrend College of Penn State offered four separate projects totaling \$44.9 million. There was no effort to define the future plans at Edinboro, Mercyhurst, or Gannon. Undoubtedly, there are millions more needed by these institutions.

However, this Plan is primarily concerned with the 13 public school districts in the County. That concern is based upon two factors. One is the importance of a good basic education to the 40,000 plus students enrolled in public school systems. The other is one of cost. The costs of public education and school buildings are substantial. For example, the cost of additions to schools (2002 figures) was estimated at over \$145 per square foot. Faced with this type of expense, good, community-based planning is a must.

This report does not presume to replace the judgment of 13 school districts and their respective staff. However, certain generalizations can be made:

- Many school districts are operating below building capacity.
- Student capacity can be measured in a variety of ways. However, where excess capacity exists, caution in new construction is warranted.
- Schools with excess capacity are often in small urban, or rural locations.
- In most districts, policies of selective renovation with only occasional new construction are appropriate.

- Though little Countywide increase in school-age children is projected by 2020, the situation varies by school district. Those which should watch development activities the closest include:

Millcreek
General McLane
Harborcreek

General McLane, in particular, may experience the greatest proportional student growth.

- School districts with special situations include Erie City and Northwestern. Though total population trends in Erie City are stabilizing, the population composition may create a growth in school-age children. Indeed, the Erie School District has already announced enrollment increases and resulting physical needs. In the Northwestern School District, the future of the SCI-Albion will have a significant impact on that district. As guards and other personnel at the SCI relocate to homes near the prison, population growth could exceed expectations.

Through the oversight of the State and Intermediate Unit 5, some effort to share school resources should be initiated. The sharing of surplus facilities in one district by another may save County taxpayers many dollars. Also, the temporary use of underutilized private school buildings should be examined. Often, population increases in the school ages are a temporary phenomena. It would be imprudent to spend \$130 per square foot for a five-year need where surplus facilities are at hand. All in all, school districts need more interaction between themselves, the County, and their constituent municipal governments. All too often, school planning is myopic. It looks only to the District itself and not at the larger context of community.

There is one other aspect of school planning which needs to be better addressed. The disposal of surplus school buildings. Such disposal should actively seek municipal and County input so the reuse of structures is compatible with local land use policy.

MEDICAL FACILITIES



Medical Facilities and Services: Because of the presence of two major hospitals, Erie County has a sufficient number of hospital beds. The presence of smaller facilities in Corry and Union City keeps acute medical services within reasonable reach of most citizens. The only apparent geographic gap is in the western part of the County. There are no hospital facilities west of the Erie-Millcreek corridor. This may be partially explained by the presence of a hospital nearby in Conneaut, Ohio. Given current health cost restraints, no new hospitals are proposed. Rather, modern practice suggests new group practices and clinics in the west County with direct ties to hospitals. Such a policy should improve medical service to this area.

In addition to these physical elements, there is also changing demographics to consider. Erie County may grow by as much as 20,000 persons between 2000 and 2020. If the current doctor-to-population ratio is to be maintained, about 50 additional doctors are needed in that time period. Spatially, many of these additional physicians might consider rural and suburban locations so they would better relate to future growth patterns.

Most occupants of nursing homes are older, typically patients over 65. Between 2000 and 2020, the number of people in that age category should increase by nearly 14,000 persons. After the year 2010, substantial growth in the "over 65" cohorts is forecast. A significant increase in nursing home beds and assisted living facilities will be needed.

Conclusions: This section of the Community Facilities Plan ranges into areas where physical planners rarely practice. Yet, they are important from the standpoint of cost and their effect upon County citizens.

Given the size, complexity, and cost of these areas, certain conclusions are obvious:

- Health services must anticipate, not react to, changing demographic conditions.

- Hospitals and nursing homes are rather expensive resources, and coordinated planning is necessary.
- As health services have expanded, they have become major employers. Decisions made to move, close, cut back, or change facilities can have as negative an economic effect as the closure of a major industry. The viability of local health service institutions are an essential part of Erie County's overall economy.

PUBLIC SAFETY

**A leading concern in
communities
across the United States and
throughout the world is safety.**

Like various other aspects of this Plan, the issue of public safety is somewhat removed from the physical planner's typical scope. However, there are a few issues that must either be addressed or acknowledged.



- Erie County's 911 system is still not a single provider, but is operated by the County Emergency Management Center and 12 separate communication centers. The intent of 911 was for a single agency. That intent should remain a long-term County goal.
- The issue of volunteer levels must be monitored closely. Currently, various volunteer fire companies and emergency operations have sufficient personnel, but are starting to experience recruitment problems.
- A preliminary feasibility study to examine the pros and cons for regional police and/or fire services should be initiated at the County level.
- The Erie Weather Station should be reactivated, in conjunction with the major expansion of the runways for the Erie International Airport.

Erie County Existing Recreation Facilities Map

This map is a component of the Erie County Comprehensive Plans package by reference.

This map is large in size (nearly 3 feet by 5 feet) and the amount of information displayed is substantial (over 300 numbered and listed privately owned/publicly owned/school site recreation facilities). Therefore, it is impractical to place it in the actual documents.

This map is available for review at the Erie County Department of Planning and at the Erie County Blasco Library.