

Summary

The provision of safe drinking water and adequate wastewater treatment facilities is fundamental to public health and safety and the quality of life in a community. Within development areas, these services are provided through systems operated by the respective political jurisdictions, as well as by several smaller private water systems. These facilities are essential for implementation of managed growth policies and the designation of areas to be developed at urban densities. In rural areas, where lots are much larger and the intensity of development lower, individual wells and septic systems are utilized.

The Sandusky County Comprehensive Water and Sanitary Sewer General Plan¹, enacted in 1998, and hereinafter referred to as the County General Plan, established the planned service areas for public and privately-owned community utility systems and sets forth priorities for future service areas. It identifies facilities necessary to provide services for existing and future customers. The water and sewer utilities managed by the municipalities are also addressed in this Plan, providing needed coordination among jurisdictions.



To fulfill the County General Plan principles of “a sound, balanced and diversified economy,” the water and sewer facilities provided within the various county political subdivisions must be adequate to support the projected levels of industrial and commercial development, as well as residential development. The provision of these facilities to the Industrial/Employment Areas and Neighborhood Centers will promote the focusing of industrial and commercial development in these areas. Sandusky County’s efforts to attract quality employment opportunities require the availability of adequate fire protection as well as capacity to treat industrial wastewater in the targeted areas. The capital programming for facility expansion and improvement must be done to ensure that service is available in a timely manner. The municipalities must also assume an active role in planning facilities to serve areas adjacent to their boundaries.

Outside developed areas, private systems must be utilized to serve individual properties. The intensity of development within rural areas of the county and at crossroad commercial areas should be consistent with the capacity of aquifers in the area to provide water and of the soils to accommodate private septic systems. The extension of public facilities to serve uses outside political subdivisions should be considered only to address health issues and must be addressed as part of a Land Use Element Plan review. The establishment of private community water and sewer systems to support new development in otherwise rural areas in the county is contrary to the principles of this Plan.

¹ For more information, please see [Sandusky County Comprehensive Water and Sanitary Sewer General Plan](#): MS Consultants, 1997.

In addition to ensuring that an adequate supply of water is available, Sandusky County must protect ground and surface water sources from pollution and degradation (as noted in the Natural Resources element). This requires monitoring and coordination of land use activities, particularly in the urbanizing areas of the County.

It is expected that the availability of an adequate level of public utilities will continue in the future to be one of the greatest determinants of new growth. However, with the increasing public support for more efficient land development and the preservation of natural resources, public and private officials may find themselves in a unique position in the future, lodged between two equally important interests. The ability of the public and private sectors in addressing this complex situation will ultimately depend upon which data are used to develop the framework by which utilities are used-or not used- to direct growth and enhance the health and human safety of county residents. This specific chapter provides this type of data.

Planning Issues

The current provision and structure of water and wastewater facilities in Sandusky County is adequate, with most municipalities having the ability to provide these services to new residents in the future. Seven of nine municipalities within Sandusky County have community water systems and wastewater treatment facilities. Although the villages of Burgoon and Helena currently have no public water and wastewater facilities, each community is currently in the process of examining the feasibility to build these systems. The balance of the unincorporated county relies on private wells or small treatment systems as a water supply, and either on-site systems or small-localized collection systems with package plants for wastewater treatment.

The most visible planning concerns in the future will evolve from:

- ✓ Existing clusters of residential development within unincorporated portions of the county with failing septic systems, poor water quality, or other environmental concerns;
- ✓ New development in areas with physical constraints counterproductive to the proper health and human safety of residents;
- ✓ Potential conflicts caused by the Northern Ohio Rural Water Authority and their vast network of low capacity water lines throughout the eastern portion of Sandusky County;
- ✓ The several combined sewer overflows (CSO) that exist in several of the County's municipalities. These CSO's could limit the type and density of new growth in these communities.
- ✓ The increasing importance to locate telecommunication towers in optimal locations.

Goals and Objectives

Public Utilities Goal: To perpetuate the County's public utilities in a safe and efficient manner to accommodate existing and future growth needs, by addressing the following objectives:

Water and Sewer Services Objectives

1. Promote industrial site planning in designated growing or growth areas with sufficient infrastructure.
2. Guide development of adequate infrastructure to targeted locations.
3. Pursue the feasibility of providing water of adequate quality and capacity to special areas with documented health and human safety issues.
4. Establish standards and criteria for consideration of cumulative impacts of on-site septic systems upon surface and groundwater quality.
5. Discourage "rural water" infrastructure sized for low-density residential use in areas where future industrial or other higher density development is anticipated. The source and capacity of water provided should match the needs of the users in any given area.
6. Develop cost effective methods to provide services to unincorporated areas of the county with documented groundwater and septic issues.

Telecommunications Objectives

1. Promote the proper placement and provision of telecommunication services throughout Sandusky County.

Existing Conditions

I. Existing Water and Sanitary Sewer Facilities

In Sandusky County, the Cities of Fremont, Clyde, and Bellevue and the Villages of Gibsonburg, Green Springs, Lindsey, and Woodville have public water and sanitary sewerage systems (*see Table II*). Where available, the Sandusky County Sanitary Engineering Department operates public water and sanitary sewer systems outside municipalities. The Sandusky Township Regional Sewer District has a regional sewer district in Sandusky Township. The Northern Ohio Rural Water Authority has a water distribution system that spreads out into the eastern half of the county and encompasses the townships of Green Creek, Townsend and York.

There are 10 small community public water systems serving mobile home parks or apartment complexes located all around the County. Another 35 (semi-public or privately owned) small water systems are located all around the County. These serve hotels, schools, industry, etc. and are referred to as “non-transient” systems. There are 10 permitted (semi-public or privately owned) small wastewater treatment systems, or “package plants”, scattered throughout the County. Approximately 41 more package plants are operated throughout the county without any permit to discharge. The balance of the County’s population is served by individual wells and on-site sanitary systems.

The County Commissioners and the Sanitary Engineers department developed a County General Plan to investigate the feasibility of providing potable water service in unincorporated areas of the County where:

- ✓ The installation of private well systems is not desirable due to groundwater quality/quantity issues, or;
- ✓ Residential, commercial, and/or industrial development is being constrained due to a lack of public water facilities.

The County General Plan also investigates the feasibility of providing sanitary sewer service in unincorporated areas of the County where:

- ✓ Pollution problems currently exist as a result of failing on-site sewage disposal systems;
- ✓ The installation of on-site sewage disposal systems for developing areas is not desirable due to insufficient lot size, soil condition, high groundwater, etc., and;
- ✓ Commercial and/or industrial development is being constrained due to the lack of public sewerage facilities.

A. City of Bellevue

The City of Bellevue (2000 Population: 8193; Sandusky County portion: 4352) is located in the southeast corner of Sandusky County and the northwest corner of Huron County. Bellevue currently has both a potable water system and a sanitary sewerage system.

Potable Water System

The source of raw water for Bellevue is surface water from the Berry Creek and Frink Run. The raw water is stored in five upland reservoirs, totaling around one billion gallons. The design capacity of the water treatment plant is 3.0 million gallons per day (mgd), based on the filters. The plant provides the following treatment: lime softening, coagulation, sedimentation, recarbonation, fluoridation, filtration, and disinfection. The average day demand is 1.6 mgd, and the peak day demand is 2.2 mgd. The plant has a good compliance record with the Ohio EPA. This information indicates that there is sufficient capacity to provide service to future users.

Sanitary Sewerage System

The separate sanitary sewer system consists of approximately 171,000 feet of pipe ranging in size from 8-inch to 30-inch diameter. There are seven lift stations in the system.

Bellevue's existing design capacity of the plant is 2 mgd. The wastewater treatment process consists of primary settling, trickling filters, aeration basins, final clarifiers, and ultraviolet disinfection. The current loading on the plant is an average daily flow of approximately 1.1 mgd and a peak hourly flow of 2.0 mgd. The plant has a good compliance record with the Ohio EPA. This information indicated that there is sufficient capacity at the wastewater treatment facility to provide service to future users. Sewer system capacity will be determined on a case-by-case basis.

B. City of Clyde

The City of Clyde (2000 Population: 6,064) is located in the southeast portion of Sandusky County. Clyde currently has both a potable water system and a combined sanitary sewerage system.

Potable Water System

The source of raw water for Clyde is surface water from Beaver Creek and the Racoon Creek. The raw water is stored in two reservoirs, totaling around 900 million gallons. The design capacity of the water treatment plant is 2.4 million gallons per day (mgd). The treatment process consists of lime softening, coagulation, sedimentation, filtration, absorption, fluoridation, and disinfection with a 260,000 thousand gallon clear well. The average day demand is 1.65 mgd, and the peak day demand is 2.2 mgd. The plant has a good compliance record with the Ohio EPA: in 1997, Clyde received an Outstanding Public Water System Award from them. This information indicates that there is sufficient capacity to provide service to additional future users.



Sanitary Sewerage System

Much of Clyde's collection system is a combined sewer system, as it serves as both a sanitary sewer and as a storm water sewer. A combined sewer overflow (CSO) is a point in this collection system where flow is either sent to the WWTP or diverted directly to an outfall at a stream or river. During dry weather, all of the flow is sanitary sewage and is sent to the WWTP for treatment. During a rainfall event, storm water runoff also enters the sewers. If all of the flow cannot be transported and treated, an overflow point (CSO) will begin diverting the flow directly to an outfall on a stream or river. Any discharge such as this must be permitted by the State.

Currently, there are three CSOs located within the City limits are: CSO #1 is located by the Fire Station on Route 20, CSO # 2 is at the dead end of Spring Street, CSO # 3 is located by the bridge on Vine Street. All three CSOs are clearly marked by signs above the pipe outlets where any flow may enter the creek.

Clyde's WWTP was upgraded to a design capacity of 4.8 mgd. The current loading on the plant is an average daily flow of 1.2 mgd. The wastewater treatment process consists of an oxidation ditch, intra-channel clarifiers, tertiary polishing lagoons, and final disinfection. The plant has had minor violations of its NPDES Permit, relating to oil and grease levels and chlorine residual levels, and plant staff have been required in the past by the Ohio EPA to perform wet weather stress testing on their plant.

Nevertheless, the current situation of sanitary sewer services in Clyde indicates that there is sufficient capacity at the wastewater treatment facility to provide service to additional future users.

C. City of Fremont

The City of Fremont is geographically in the center of Sandusky County (2000 Population: 17,375). Fremont currently has both a potable water system and a combined sanitary sewerage system.

Potable Water System

The source of raw water for Fremont is surface water from the Sandusky River. The raw water is stored in a reservoir behind the Ballville Dam on the Sandusky River. The level in the reservoir ran very low in 1988. The Ohio EPA has recommended that Fremont consider additional reservoir storage to provide at least a 270-day supply. In 2002, the City of Fremont moved one step closer to meeting the EPA recommendation and purchased enough acreage necessary to building the reservoir.

The design capacity of the water treatment plant is 10.5 million gallons per day (mgd). The treatment process consists of lime/soda softening, coagulation, sedimentation, filtration, absorption, recarbonation, fluoridation, and disinfection with a one million gallon clear well. In 2002, the average day demand was 3.97 mgd, and the peak day demand was 6.14 mgd. The water treatment plant has a good compliance record with the Ohio EPA. All of this information indicates that there is sufficient capacity at the plant to provide service to additional future users. An expansion is planned in 2004 to increase the capacity of the plant to 14 mgd and to construct a new sludge press processing unit.

Sanitary Sewerage System

The combined sanitary sewer system consists of approximately 320,000 feet of pipe ranging in size from 8-inch to 54-inch diameter. As of January 2002, four of the 13 permitted combined sewer overflows (CSOs) in the system were active. Several alternatives have been considered to abate the impact of these CSOs. Some relief sewers have been constructed to eliminate flow constrictions in the system. Also, sewer separation work has been ongoing, predominantly in the southwest sections of town. Additional separation work is done when road resurfacing projects are done. Available capacity to add sewer extensions may have to be determined on a case-by-case basis in the future, as the impacts of any additional flow on CSOs may also have to be determined.

The wastewater treatment process consists of preliminary screening and grit removal, primary clarification, activated sludge with secondary clarification, tertiary sand filtration, and effluent disinfection (chlorination and dechlorination). The existing design capacity of the plant is 10.5 mgd. The current loading on the plant is an average daily flow of 5.5 mgd. During rainfall events, the plant can handle a peak flow through the tertiary treatment units of 9.2 mgd. The plant has a good compliance record with the Ohio EPA. This information indicates that there is sufficient capacity to provide service to additional users. In 2004, a new sludge handling facility will be constructed to produce Class A sludge.

D. Sandusky County

The Board of County Commissioners created the Sandusky County Sanitary Engineering Department in 1975 to assist with the County's responsibilities pursuant to Chapter 6103: County Water Supply Systems and Chapter 6117: Sewer Districts; County Sewers of the Ohio Revised Code. The Sandusky County Sanitary Engineer is responsible for the water and sanitary sewer facilities outside of municipal corporations. There are currently two sewer districts (Sewer District #1 and General Sewer District) and one water district (General Water District). The department also provides assistance and technical supervision to the Village of Lindsey's water and wastewater facilities.

Potable Water System

Under the General Sewer District, the General Water District was formed in 1998 as well. Currently, the Sanitary Engineers own, operate and maintain a water supply treatment facility and distribution system for the Shorewood Subdivision (Rice Township). The design capacity of the water treatment plant is 0.2 million gallons per day (mgd) and treatment consists of feeding phosphate to control iron residual and chlorination for disinfections. The average daily demand for the plant in 2002 is 0.03 mgd. The plant has a good compliance record with the Ohio EPA.

Sanitary Sewerage System

The Sanitary Engineer currently operates a sanitary sewer collection system outside of City of Fremont in Ballville and Sandusky Townships. This system is known as Sewer District #1 and treatment is performed by the City of Fremont. The system consists of approximately 1,500,000 feet of pipe, ranging in size from 8-inch to 36-inch diameter. There are five lift stations for the collection system.

In 1998, a countywide district was formed that encompassed the rest of the Sandusky County excluding municipalities, Sewer District #1, and Sandusky Township Regional Sewer District. This countywide district is known as the General Sewer District. It encompasses a collection system that is north of the City of Fremont in Sandusky and Rice Townships and is treated by the City of Fremont. The system consists of approximately 50,000 feet of pipe ranging in size from 8-inch to 18-inch diameter. There are four lift stations in the collection system.

Also in the General Sewer District, two collection systems and wastewater treatment plants are operated for Adams Acres Subdivision (Jackson Township) and Westwood Subdivision (Ballville Township).

E. Sandusky Township Regional Sewer District

In May of 1993, the Sandusky Township Board of Trustees filed a petition requesting the formation of a regional sewer and water district with the Sandusky County Common Pleas Court. The court concluded that a sewer district was deemed necessary as no evidence was presented that showed that adequate sewer service could be provided by another source more economically than the district's plan. Insufficient evidence was presented to establish that a water district was necessary. Consequently, the Sandusky Township Sanitary Sewer was formed pursuant to Chapter 6119 of Ohio Revised Code (Regional Water and Sewer Districts)

Sanitary Sewerage System

The Sandusky Township Regional Sewer District Board is responsible for the sanitary sewer facilities between the areas north of Fremont and south of the Ohio Turnpike. With the coordination between the County and the Board, the first phase of construction was completed in this area that connect to the Sandusky County General Sewer District and is treated by Fremont. The Sandusky County Sanitary Engineering Department performs the operation, maintenance, and billing for the Sandusky Township Regional Sewer District customers. A second phase is currently in the preliminary stages.

F. Village of Gibsonburg

The Village of Gibsonburg (2000 Population: 2,506) is located in the northwest portion of Sandusky County. Gibsonburg currently has both a potable water system and a 100% combined sanitary sewerage system.

Potable Water System

The supply of raw water for Gibsonburg derives from six or more drilled wells. The design capacity of the water treatment plant is 1.0 million gallons per day (mgd). The water treatment process consists of aeration and disinfection with an 80,000 gallon clear well. A new 500,000-gallon clear well became operational as of November 1996. The average day demand is 0.450 mgd, and the peak day demand is 0.588 mgd. The plant has a good compliance record with the Ohio EPA.

Sanitary Sewerage System

The sanitary sewer system consists of approximately 40,000 feet of pipe ranging in size from 8-inch to 12-inch diameter. Gibsonburg's WWTP has a design capacity of 0.56 mgd. The wastewater treatment process consists of an oxidation ditch treatment system, final clarifiers, and disinfection. The current loading on the plant is an average daily flow of 0.4 mgd (with wet weather average daily flows approaching 0.9 mgd). The plant has had several violations of its NPDES Permit and a sludge management plan was recently developed for their plant. Until the plant capacity is upgraded, the village's ability to accommodate future growth may be limited.

G. Village of Green Springs

The Village of Green Springs (2000 Population: 599) is located in the south-central portion of Sandusky County, with roughly half of the incorporated area being located in Seneca County. Green Springs currently has both a potable water system and a 100% combined sanitary sewerage system.

Potable Water System

The supply of raw water for Green Springs is three drilled wells. The water treatment process consists of softening and disinfection with two clear wells totaling a storage volume of 185,000 gallons. The design capacity of the water treatment plant is 0.3 million gallons per day (mgd). The average day demand is 0.16 mgd, with peak day demands over 0.2 mgd. The plant has a good compliance record with the Ohio EPA. A new water line from the City of Clyde is providing a new source of treated water for the village.

Sanitary Sewerage System

Much of Green Spring's collection system serves as both a sanitary sewer and as a storm water system. As mentioned earlier, this type of collection system is referred to as a combined sewer system. The Village has plans to separate the sewer system and has utilized several funding sources in the past to do so, such as Issue II Funding.

Green Springs has a wastewater treatment plant that can treat an average daily flow of 0.4 mgd. The plant currently receives flows of approximately 0.4 mgd. The treatment system consists of an aerated lagoon system that was built in 1968. The WWTP discharges the treated wastewater to Flag Run. In 1996, the plant experienced many violations of its NPDES Permit in its discharge to Flag Run. These occurred mainly due to fluctuations in the flow received at the plant during wet weather. The village is currently operating under temporary EPA permits, and just had a study prepared that examined the abatement of several more combined sewer areas around the village. Until the sewer separation work and subsequent flow evaluation is completed, the Green Springs wastewater treatment system has a limited capacity to provide service to additional customers.

H. Village of Lindsey

The Village of Lindsey (2000 Population: 504) is located in the northwest portion of Sandusky County, in Washington Township. Lindsey currently has both a potable water system and a sanitary sewerage system.

Potable Water System

The supply of raw water for Lindsey derives from two drilled wells. Water treatment consists of disinfection without retention. The design capacity of the water treatment plant is 0.23 million gallons per day (mgd). The average daily demand is 0.060 mgd. Recently, the Village has completed installing individual water use meters throughout the distribution system. The plant has a relatively good compliance record with the Ohio EPA. This information indicates that there is a very limited capacity available to provide service to more future users.

Sanitary Sewerage System

The sanitary sewer system consists of approximately 11,000 feet of pipe ranging in size from 8-inch to 15-inch diameter pipe. There are no lift stations in the system.

Lindsey's WWTP consists of an extended aeration treatment system with tertiary sand filters. The plant was built in 1986 and has a design capacity of 0.215 mgd. The current loading on the plant is an average daily flow approaching 0.1 mgd. The WWTP discharges to the Muddy Creek. The plant has not experienced any significant Permit violations and has a reasonable good record with the Ohio EPA. This information indicates that there is sufficient capacity to provide service to additional future users.

I. Village of Woodville

The Village of Woodville (2000 Population: 1,977) is located in the northwest portion of Sandusky County. Woodville currently has both a potable water system and a combined sanitary sewerage system.

Potable Water System

The supply of raw water for Woodville is seven deep wells. The water treatment process consists of lime-soda softening, coagulation, sedimentation, filtration, fluoridation, and disinfection with two clear wells combining for a storage volume of 200,000 gallons per day (mgd). The average day demand is 0.15 mgd, and the peak day demand is 0.40 mgd. The plant has a good compliance record with the Ohio EPA. This information indicates that there is capacity available to provide service to additional future users.

Sanitary Sewerage System

The combined sanitary sewer system consists of approximately 40,000 feet of pipe ranging in size from 8-inch to 18-inch diameter pipe. There are two lift stations in the system and 18 permitted combined sewer overflows (CSOs) in the system.

Woodville's WWTP consists of an aerated lagoon system with a design capacity of 0.30 mgd. The current loading on the plant is an average daily flow of 0.31 mgd. and has received a peak monthly flow of 0.645 mgd or more in the past. This plant discharges to the Portage River. The plant has experienced many suspended solids and fecal coliform effluent violations of its NPDES Permit, primarily due to the large fluctuations in the flows received at the plant during wet weather. This information indicates that there is not sufficient capacity to provide service to additional future users.

J. Other Purveyors

The Village of Genoa

The Village of Genoa is located in the southwest portion of Ottawa County, about one half mile north of the Sandusky County line. Genoa has a potable water distribution system that serves approximately 2,600 people. There are 1,120 metered connections. The average day demand is 0.4 mgd, and the peak day demand is 0.915 mgd. Water is obtained from the City of Oregon, which uses two 270 gpm pumps. Genoa's water treatment process consists of supplemental sodium hypochlorite and phosphate addition at the booster pump station. There are two 500 gpm booster pumps that send flow to the distribution system. The distribution system consists of over 50,000 feet of water main ranging in size from 4-inch up to 8-inch diameter pipe. There are two 125,000 gallon elevated storage tanks in the system. The pressure maintained in the system ranges from 50 psi to 54 psi. Genoa has a good compliance record with the Ohio EPA. This information indicates that there is capacity available to provide service to future users. The County recently received plans for a water supply main extension from Genoa to the Ohio Turnpike Rest Area Plaza. Potential users living along the alignment will be able to tie into the system to receive potable water service.

Northern Ohio Rural Water Authority

The Northern Ohio Rural Water Authority, formerly known as the Erie-Huron County Rural Water Authority, was organized and established under the provisions of the Ohio Revised Code, Chapter 6119: Regional Water and Sewer Districts. The Water Authority has a service area that incorporates several portions of Erie, Huron, and Sandusky Counties (**Please see map: NORWA Water Service Area**).

The Water Authority is currently expanding their water systems to provide potable water service to selective areas in Townsend, Green Creek, York, and Riley townships, and a portion of Sandusky Township (east of the River and north of the Turnpike). Hydrants for flushing and filling fire department tankers will be provided. Cooperative efforts between the Water Authority and Sandusky County may have the potential to solve many of the potable water service demands in the northeast region of the County.

K. Semi-Public Sewage Treatment Systems

There are many small commercial or semi-public wastewater treatment systems located throughout the County that fall under the jurisdiction of the Ohio EPA. These are serving many of the same mobile home parks, schools, commercial establishments, and private industries described above that have their own potable water system. Many of these systems consist of septic tanks and leach fields. The other systems generally consist of a small wastewater treatment plant, commonly referred to as a package plant.

L. Privately-Owned Sewage Treatment Systems

All of the areas in the County that are not served by the above discussed wastewater treatment facilities utilize on-site systems, which fall under the jurisdiction of the Sandusky County Health Department. These systems usually consist of a septic tank and leaching field. When

soil and groundwater conditions are adequate and the systems are properly designed and maintained, they provide a very good level of treatment, and the negative impacts to the environment are negligible.

Areas where failing septic systems are known to be causing pollution problems have been identified by the Sandusky County Health Department. Also, areas with numerous septic systems on clustered small lots have been considered as potential areas of need for sanitary sewerage systems. These areas will be discussed further in the next section that describes the existing needs in Sandusky County.

Table I1: Water and Sewer Inventory, Sandusky County Municipalities and Villages

Political Subdivision	2000 Population	Water/Sewer Master Plan	Water Inventory								Wastewater Inventory								
			Service Available Outside Corp. Limits	Capital Improvement Fund (\$ Allocated Per Year, unless noted otherwise)	Storage Capacity	Design Capacity, Treatment Plant	Additional Capacity Needed	Average Daily Flow	Peak Flow	Demand Increase	Service Available Outside Corp. Limits	Capital Improvement Fund (\$ Allocated Per Year)	Design Capacity, Treatment Plant	Additional Capacity Needed	Average Daily Flow	Peak Flow	NPDES Violations?	# of Combined Sewer Overflows (CSO)	% Sanitary Sewer Mains Combined
Bellevue	4,352	N	Y	\$3mil*	1.4mg	3 mgd	N	1.65mgd	2.2 mgd		Y	\$700K*	2 mgd	N	1.1 mgd	2 mgd	N	0	0%
Burgoon	199	N	No public water and sewer systems																
Clyde	6,064	Y	Y	\$2.6mil	2 mg	2.4 mgd	N	1.5 mgd	1.9 mgd	Y	Y	\$1.4mil	4.8 mgd	N	1.2 mgd	1.9 mgd	Y	5	40%
Fremont	17,375	Y	Y	\$75K	4 mg	10.5 mgd	Y	3.95 mgd	6.06 mgd	Y	Y	\$75K	9.2 mgd	N	5.3 mgd	Under 9.2 mgd	N	13	70%
Gibsonburg	2,506	Y	N	No Fund	760K gallons	1 mgd	N	.40-.45 mgd	.45 mgd	Y	N	\$40K	.5 mgd	Y	.4 mgd	.650 mgd	Y	3	100%
Green Springs	599	N	N	No Fund	185K gallons	.30 mgd	Y	.16 mgd	.20 mgd	N	N	No Fund	.370 mgd	Y	.4 mgd	Over .4 mgd	Y	1	100%
Helena	236	N	No public water and sewer systems																
Lindsey	504	N	N	No Fund	75K gallons	.23 mgd	N	.06 mdg	N/A	N	N	No Fund	.215 mgd	Y	.1 mgd	Under .215 mgd	Y	0	N/A
Woodville	1,977	N	Y	\$438K	300K gallons	1 mgd	N	.15 mgd	.40 mgd	N	Y	\$278K	.30 mgd	Y	.31 mgd	.645 mgd	Y	18	90%

Notes: All Municipalities- except Woodville- that provide water and sewer services to non-residents require annexation or annexation covenants
Figures for Bellevue's capital improvement funds for water and wastewater are total amounts of funds available, and not amounts allocated yearly.

II. Existing Water Needs & Water Service Planning Areas

Existing needs have been determined through input over the past several years from the Sandusky County Sanitary Engineering Department, the County Health Department, the Ohio Environmental Protection Agency, and from cooperative efforts with all of the political subdivisions located within the County (**See Map: Water Planning Areas**).

Water needs and water service planning areas were established largely due to the existence of documented health problems. All of the areas not being served by a community potable water distribution system rely on groundwater as their supply source. Either individual private wells or non-community water systems, with little or no treatment, are used. However, while the quantity from these privately owned wells is typically enough to meet demand, there have been documented groundwater quality concern in the areas. The concern has been enough to substantiate further county and state intervention.

The most common groundwater quality problem in Sandusky County is water hardness. Water in the eastern portion of the County has been known to contain high levels of sulfide, chloride, and/or iron. Other existing groundwater quality problems arise from some level of contamination² due to the presence of sinkholes in southeastern Sandusky County. These sinkholes provide an “open doorway” for contaminants to enter the groundwater system. Any contaminant entering a sinkhole will present at least a short-term health risk to any nearby well users.

Another aspect of potable water needs that should be addressed is the subject of fire protection services. Improving water systems to meet fire suppression standards set forth by the Insurance Services Office (ISO) provides an added degree of security for rural residents. This enhanced protection can also help to increase the tax base by allowing commercial and industrial growth. Insurance rates can be decreased due to an improved public protection classification when fire-fighting capacity is available. These types of cost savings and benefits need to be factored into the analysis when making a determination about what areas should be included into the water service areas or areas suitable for future industrial or commercial growth.

The following areas have been identified as having an immediate need for potable water service:

- ✓ Northern Ballville Township
- ✓ Green Creek Township (selected areas)
- ✓ The Sandusky County Regional Airport (located in Green Creek Township)
- ✓ York Township (selected areas)
- ✓ Sandusky & Rice Townships (selected areas)

² For more information, please see [Groundwater Protection and Management: A Plan for Sandusky County, Ohio](#); Sandusky County Groundwater Council, 1988.

To ensure health and human safety of residents, as well as to promote well-rounded growth, County officials recommend that all new distribution systems are capable of providing fire flows. In the evaluation of service alternatives, all water mains should be sized such that the system meet fire flow delivery standards (see Strategies section).

Per the American Water Works Association (AWWA) Manual M31, 500 gpm at 20 psi is the minimum suggested fire flow delivery for any area for non-sprinkled buildings. Insurance Service Office (ISO) fire flow requirements throughout the County range from 500 to 1,500 gpm at 20 psi. Building spacings indicate that fire flows in the range of 750 to 1,000 gpm are appropriate for residential service in the planning areas. The ISO has also established a fire flow duration of 2 hours at required fire flows of 1,000 gpm or more. These requirements may vary depending on the individual needs of commercial users in each of the planning areas.

The four water service planning areas are:

- A. **Water Planning Area 1** consists of the northern portion of Ballville Township that is in proximity to the City of Fremont. This area represents roughly six square miles of land (3,840 acres) that will likely be used primarily for low-density residential housing (approximately 2 houses/acre). Much of this land has already been built up with residential neighborhoods. The current population in this area is approximately 4,000. The ultimate build out of the area can occur over approximately 1,500 acres, since much of the acreage consists of the Sandusky River, flood plain areas, streams, cemeteries, railroad land, etc.
- B. **Water Planning Area 2** consists of the Sandusky County Regional Airport, located in Green Creek Township north of Limmerick Road. Although also in Green Creek Township, it was deemed necessary during the planning process that the airport receives additional support in attaining the necessary utilities. Currently, the airport is limited in function and diversity due to the lack of water and sewer services.
- C. **Water Planning Area 3** consists of York Township. This large expanse of area consists of approximately 30 square miles. The population in this same area is approximately 2,400. The existing development is predominantly rural/agricultural with very low housing density. Currently, private wells are relied on for potable water. However, there have been some problems with the quality of the water obtained from the wells. The Board of Township Trustees has indicated that many of the drilled wells have a high chance for contamination due to the sink-holes that are located throughout the area. Also, the groundwater in this region has a very high potential for pollution contamination and for pesticide contamination.³ This is primarily due to the Karst limestone aquifer system (sinkholes) in combination with a relatively impervious surface layer, making the ground water more susceptible to contact with surface runoff and all of the associated contaminants.

³ See Map, Sandusky County Groundwater Pollution Potential, for more information

D. **Water Planning Area 4** consists of portions of Sandusky and Rice Townships. This planning area lies generally along the Port Clinton Road corridor, from Fremont to north of the Turnpike. This corridor consists of approximately 1.3 square miles or 830 acres. In Sandusky Township there are roughly 450 residential units and a few commercial establishments. In Rice Township there are roughly 210 residential units and several commercial establishments. The population in the entire area is approximately 2,000. The existing commercial demand would be approximately 75,000 gpd. The existing development is predominantly residential with some commercial. Currently, private wells are relied on for potable water.

III. Existing Wastewater Treatment Needs & 208 Facility Planning Areas (FPA)

A. Existing Wastewater Treatment Needs

All of the areas in the County not served by a municipality or County owned wastewater treatment facilities are either served by a small semi-public system or utilize private on-site systems. Many of these areas have failing septic systems and have been identified pollution problems by the Sandusky County Health Department. Also, areas with numerous septic systems, located on small lots, close together have been considered as potential areas of need for sanitary sewerage systems. Overall 32 or more areas located in ten townships areas have been identified as having a need for sanitary sewerage service in the County General Plan. TMACOG's current 208 Plan recommends the most problematic areas to be serviced in the future by the closest service provider (see **Map: 208 Facility Planning Areas**). Some of the most problematic areas are listed below:

- ✓ Ballville Township (Timpe Road, Finerock Road and County Road 198 Area)
- ✓ Ballville Township (Rambo Lane Area)
- ✓ Ballville Township (W. Hayes Avenue Area)
- ✓ Green Creek Township (Woodland Heights Area)
- ✓ Green Creek Township (Limerick Road, State Route 101, and County Road 175 Area)
- ✓ Green Creek Township (County Road 198 Area)
- ✓ Jackson Township (Village of Burgoon)
- ✓ Jackson Township (Village of Helena)
- ✓ Jackson Township (Millersville Area)
- ✓ Madison Township (Rodriquez Street Area)
- ✓ Western Riley Township
- ✓ Riley Township (White's Landing Area)
- ✓ Riley Township (Vickery Area)
- ✓ Eastern Sandusky Township
- ✓ Sandusky Township (Edwards Street and Longanbach Road Area)
- ✓ Sandusky Township (W. Hayes Avenue Area)
- ✓ Sandusky Township (Wightman's Grove Area)

- ✓ Washington Township (Hessville Area)
- ✓ Woodville Township (Village of Woodville)
- ✓ York Township (York Elementary School Area)

Additionally, the Sandusky County Health Department has defined critical areas where conditions exist that limit the installation of a household sewage treatment system, based on a number of criteria including full or seasonal occupancy, possible growth in the area, contamination issues, soil types, drainage, karst and high bedrock, and flooding. The defined critical areas are listed below:

1. Ballville Twp. – South River Road/Rambo Lane
2. Riley Twp. – Barkshire Hills subdivision
3. Sandusky/Ballville Twp. – W. Hayes Ave.
4. Sandusky Twp. – Edwards Drive
5. Washington Twp. – Hessville
6. Townsend Twp. – White’s Landing
7. Townsend Twp. – Vickery
8. Sandusky Twp. – Country Club Estates
9. Green Creek Twp. – S. CR 198 and Cole Road
10. Green Creek Twp. – S. CR 232 and US 20
11. Green Creek Twp. – Limerick Road east of S. Main; S. SR 101 South of Clyde City limits and CR 175, east of S. Main St.

B. 208 Facility Planning Areas and Future Needs of Local Providers

Section 208(a)(2) of the Clean Water Acts directs that: “*The Governor of each State...shall identify each area within the State which, as a result of urban-industrial concentrations or other factors, has substantial water quality control problems...*” This language led to the establishment of Facility Planning Areas (FPAs) as a key element of this Areawide Water Quality Management Plan. An FPA may cover a municipality and surrounding developed areas, or areas where public wastewater treatment may be provided more economically or more effectively at a regional level than for each individual political jurisdiction. FPAs provide individual jurisdictions with a means of planning and cooperation to provide service to residents.

The FPAs were first defined in the §201 Facility Plans, most of which were prepared between 1975 and 1985. Facility Plans were detailed engineering studies of the most cost-effective means of complying with Clean Water Act wastewater treatment requirements. The Facility Plan weighed the costs and benefits of various types of sewer and wastewater treatment plants, and reached a final recommendation. The recommendation was used as a funding request for a Construction Grant under §201 of the Clean Water Act.

The Areawide Water Quality Management Plan consolidates and updates the Planning Areas originally collected from the Facility Plans. This Plan supersedes the FPA boundaries in the Facility Plans, and provides the local governments with the means of fostering cooperation between neighboring Planning Areas.

Generally speaking an FPA is a current or proposed sanitary sewer service area. In most cases, the FPA has a central wastewater treatment plant. In some cases, the FPA is a discrete service area whose wastewater is treated by a neighboring plant. In such cases, a regional approach to wastewater treatment was found to be more cost effective and/or more environmentally beneficial than a separate wastewater plant.

For the remaining unsewered FPAs, whether to build a new treatment plant or join an existing facility is a key decision, based on:

- ✓ Ability to protect public health and produce effluent that will not compromise the receiving stream's environment quality
- ✓ Lowest cost to users
- ✓ Feasibility of providing service

The Village of Burgoon

Responsible for planning public sewerage system; and will own and operate it if and when built.

Present Facilities

Burgoon presently has no treatment or collection system. The Village of Burgoon is recognized as a *Critical Home Sewage Disposal Problem Area* by the Sandusky County Health Department. The Village is not under orders by OEPA to construct a sewage system.

Issues

Burgoon has enough failed septic systems to require a public sewer system. The town's small size, however, will make a system expensive per user.

Future Wastewater Treatment Needs

The Sandusky County Health Department has recommended that a sanitary sewerage system be built. Burgoon has indicated plans to connect to the Bettsville system, about 1½ mile away in Seneca County; the estimated project cost of \$1.57 million. In 2002, the Village was awarded \$991,000 from USDA/Rural Development for the development of new water/wastewater facilities.

City of Clyde

The City of Clyde owns and operates wastewater treatment facilities and a collection system within the corporation limits.

Present Facilities

The Clyde WWTP is an oxidation ditch plant, with sludge thickeners, aerobic digesters, and chlorination. The treatment process is followed by a pair of tertiary lagoons before discharging to Raccoon Creek. This has an average design flow of 1.9 MGD and a maximum hydraulic capacity of 4.8 MGD. Flows in excess of that amount bypass through the CSOs or the SSO. In 1996, average daily flow was 1.4 MGD.

Issues

Most of Clyde's sewers are combined, with seven CSOs and one SSO. Clyde prepared a CSO operational plan in 1998, although the city is not under OEPA orders. The Sandusky County Health Department has identified the Woodland Heights subdivision, west of Clyde, as a *Critical Home Sewage Disposal Area*. The Cherry Knoll trailer park, which is inside the city, is served by a package plant and should be tapped into the sewer system.

Karst Bedrock Formations

Clyde lies along the west edge of a karst limestone geologic formation that stretches from Seneca County to Lake Erie at Sandusky. Karst bedrock is porous, with sinkholes that allow surface runoff to drain directly into groundwater. Because karst limestone is porous, water flows through it much more quickly. Drinking water sources that draw their supply from the karst aquifer are very vulnerable to contamination. Contaminated water may also reach Lake Erie through karst formations. Discharges of wastewater effluent from public or private treatment plants that drain septic tanks into sinkholes should not be permitted.

Future Wastewater Treatment Needs

Clyde should proceed with implementation of its CSO operational plan. Four CSOs (Buckeye, Spring, Mulberry and Vine Streets) were scheduled for elimination in 2000 following sewer separation projects. Three CSOs (regulators I, IA, and IB in the Raccoon Creek/US 20 area) will remain. Sewers should be extended to serve Woodland Heights. The Cherry Knoll package plant should be tapped into the city sewer.

The City of Fremont

Fremont owns and operates the wastewater treatment plant and sanitary sewers within its corporate limits. Sandusky County owns and operates two sewer districts in unincorporated areas around Fremont, connecting to the city system for treatment. In addition, Sandusky Township Regional Sewer District has collector sewers that connect to the County's General Sewer District which convey the sewage to Fremont facilities for treatment.

Present Facilities

Fremont's WWP is a conventional activated sludge plant rated at 9.2 MGD average and 14.0 MGD peak, based on the City's capacity analysis. Its facilities include tertiary filters, an aerobic digestion, and chlorination/dechlorination. Sludge is applied to land in liquid form. Average flow is 5.5 MGD, and peak is 9 MGD. The most recent plant upgrade was in 1988, at a cost of \$5.5 million and another \$2.5 million to the sewer system. In 2004, a planned expansion will increase the capacity of the plant to 14 mgd and a new sludge processing unit will be constructed.

Issues

Like many municipalities, Fremont's sewer system is combined sanitary and storm. After rain storms, sewage overflows into the Sandusky River at thirteen combined sewer overflows (CSOs). Of these, five are active. The others are blocked off and used only in emergency situations.

In 2000, Fremont completed a multi-phase sewer separation program with combined sewers being separated in the following areas: East State Street, West State Street, Castalia Road, Walnut Street, and Morrison Road. In all, combined sewer overflow volumes have been reduced by approximately 30-35%.

Sandusky County

The Sandusky County Sanitary Engineering Department owns and operates two sewer districts outside of the City of Fremont's corporation limits. The two districts are called Sewer District #1 and the General Sewer District. Both districts utilize the City of Fremont for treatment of the sewage. Sewer District #1 is an older collection system which has sewers constructed from 1969 to present. There has been over thirty sewer improvements done to the original sewer district.

The General Sewer District, established in 1998, which included the area north of Fremont along State Route 53 (near Ohio Turnpike). This area has received noteworthy sanitary sewer improvements over the last several years. The need for these improvements stemmed from unsewered residential areas north of Fremont; commercial development directly associated with the interchange; and commercial and recreational development along the river.

In Rice Township, which is within the General Sewer District, the County performed three sewer improvements along with a private improvement by Riverfront Marina and Campgrounds. The County addressed the Ohio EPA findings and orders for the Sunny Acres area, the aging Shorewood Subdivision Package Plant, and the commercial properties along State Route 53. Shorewood Package Plant, which was operated and maintained by the County, was replaced with a lift station and treatment is now done by the City of Fremont. Riverfront Marina also tied into County sewers. In conjunction with the Sandusky Township Regional Sewer District, past problematic areas from residential septic systems along the Port Clinton Road and package plants from the Fremont Turnpike Hotel and Riviera Mobile Home Park were taken care of. The County operates and maintains the sewers for the Sandusky Township Regional Sewer District.

Under the General Sewer District, the Sanitary Engineers also operates and maintains two packages plants the serve subdivisions.

County Wastewater Package Plants

Both plants are extended aeration plants with surface and filters, and unlike most package plants, have NPDES permits. Both plants have a problem in increasing maintenance requirements and costs as they get older, and also have a limited customer base to pay for repairs. The plants are located in Adam's Acres Subdivision and Westwood Subdivision.

Adam's Acres is a subdivision located in Jackson Township, west of Fremont near US 6. The plant's design flow is 35,000 GPD and its average daily flow in 2002 was 14,000 GPD. It currently has Inflow/Infiltration (I/I) problems and it discharges into the Muskellunge Creek. If the county's sanitary sewer service area expands far enough west to make it economically feasible, this package plant should be tied into the public system. At the present time, the county's service area ends four miles east of Adam's Acres, and it is also not located in the designated facility planning area. Due to these issues, it is unlikely that this package plant will be linked into the public system in the foreseeable future.

Westwood is a subdivision located off of County Road 41 in Ballville Township, west of State Route 53. The Westwood plant has a design capacity of 20,000 GPD and its average daily flow in 2002 was 16,000 GPD. The plant is in the Fremont facility planning area and should eventually be tied into the city system. Westwood is roughly one and one half miles west of the county service area. Sewers are not expected to be available in this area in the foreseeable future.

Unsewered Areas

The Sandusky County Health Department has identified several unsewered portions of the Fremont FPA as *Critical Home Sewage Disposal Problem Areas*. These include:

- ✓ Areas along the east bank of the Sandusky River in Sandusky and Riley Townships, especially Muncie Hollow and the areas between Kelly and Scranton Roads.
- ✓ The Barkshire Hill subdivision in Riley Township.
- ✓ Timpe Road, south of US 6, east of Fremont, in Ballville Township.
- ✓ Rambo Lane and South River Road, south of Fremont in Ballville Township along the river between Roth and Havens Station Road.

Issues

One package plant (Holiday Inn) still exists and contributes a major pollution loading to the Sandusky River. The entity has been offered a tap to the sewer system by the Sandusky Township Regional Sewer District, yet has not tapped into the system as of the spring of 2003. The plant for the Holiday Inn was installed in 1969 with a capacity of 36,000 MGD and has a NPDES Permit.

It is essential that this existing wastewater treatment plant be taken out of service and tied into the public sewer. A smaller wastewater treatment plant like the Holiday Inn is more susceptible to malfunction due to flow surges. Most smaller plants also do not have trained operators on site. A larger treatment plant, such as Fremont's, is able to provide stable, good quality treatment because it has constant flow and is operated by full-time licensed staff.

Future Wastewater Treatment Needs

The sanitary sewers should be extended throughout the specific facility planning area to developed areas lacking public sewers, if and when financially feasible. The top priorities should be Critical Home Sewage Disposal Problem areas and the aforementioned package treatment plant that has public sewers available to them.

Village of Gibsonburg

Gibsonburg owns and operates wastewater treatment facilities and a collection system within the corporate limits.

Present Facilities

The Gibsonburg WWTP is an oxidation ditch facility with a capacity of 0.500 MGD. This system has an average daily flow of 0.4 MGD and average wet weather flow of 0.9 MGD. Tests indicate that the WWTP can meet its effluent limitations at an average flow of 0.5 MGD. The sewers were designed as a combined system using existing storm sewers and septic tanks. The septic tank effluent discharges to the combined sewer system; the village is responsible for the handling of septage. The effluent discharges to Hurlbut Ditch and Wolf Creek; both Portage River tributaries.

Issues

The existing wastewater treatment plant has limited capacity for additional customers. In order to provide service to the Facility Planning Area, either treatment capacity will need to be added by a plant expansion; or freed up by removing stormwater from the sanitary system. The Sandusky County Health Department has identified Rodriguez Street area in Madison Township as a *Critical Home Sewage Disposal Problem Area*. This area is on the south of SR 600 just east of the Village limits.

Gibsonburg prepared a CSO abatement study, which was submitted to and accepted by OEPA. A phased village-wide sewer separation was estimated to cost \$7.7 million. The first phase, a \$45,000 project along Linden Avenue for the Quarry Village Apartments area, was constructed in 1998. The removal of farm field tile draining an area of 300-400 acres is planned. Removing this tile should remove a substantial amount of extraneous flow from the sanitary system.

Future Wastewater Treatment Needs

Gibsonburg should implement its CSO program as cost-effective. Removal of extraneous flow by disconnecting the farm field tile should be a top priority. Increased treatment plant capacity will be required to meet future needs. Currently, Gibsonburg is preparing a study to pursue plant upgrades and sludge storage.

Village of Green Springs

The Village of Green Springs owns and operates wastewater treatment facilities and a collection system within the corporate limits. .

Present Facilities

The Village has an aerated stabilization pond that discharges to Flag Run Creek. The treatment plant was rated at design flow of 0.24 MGD, though MS Consultants notes it can handle 0.370 MGD. Average daily flow is approximately 0.4 MGD but with permit violations due to wet weather flow fluctuations. The treatment plant is a one-cell abated lagoon with a baffle between the aerated and quiescent zones.

Issues

The serious combined sewer and I/I problems account for a significant portion of the flow. During wet weather, sewers overflow and discharge to Green Creek. If I/I is reduced enough to bring flows below the plant's capacity, an expansion may not be necessary to accommodate projected growth.

Green Springs has completed several sewer separation projects in the last five years along Catherine, South Leonard, Euclid, Kansas Street, and West Adams Streets; and between Euclid and West Adams. A new development is planned on the west side of town; it will have separate sanitary sewers and storm drainage will be directed away from the village.

Future Wastewater Treatment Needs

A CSO abatement plan and financing schedule is needed to reduce overflows of untreated sewage. Due to the high cost of these improvements, it will probably be necessary to build them in phases over a period of years. The wastewater plant is currently at or above its design flow. A treatment plant expansion may be needed in the future. The first priority, however, should be to complete the CSO abatement program. When all phases are done, treatment capacity needs should be re-evaluated.

Village of Helena

Helena is responsible for planning public sewerage system; and will own and operate it, if and when built.

Present Facilities

Helena has no public treatment or collection system; sewage treatment is provided by individual septic systems.

Issues

The Sandusky County Health Department has identified Helena as a *Critical Home Sewage Disposal Problem Area*. The area has shallow bedrock; effluent from septic systems may drain into the bedrock through cracks, rather than flowing out to local ditches. State Route 6, a major highway, passes through Helena, so there is potential for growth if a sewer system is installed.

Future Wastewater Treatment Needs

The Sandusky County Health Department has recommended that a sanitary sewerage system be built. Helena should prepare a General Plan to evaluate these options. Should Helena proceed with a sewerage project, including Millersville (about two miles away) may be worth considering. The Sandusky County Health Department has cited both towns as needing sewerage improvements. Millersville is not presently part of this FPA.

Village of Lindsey

Lindsey owns and operates a wastewater treatment facilities and a collection system within the corporate limits.

Present Facilities

The Lindsey treatment plant is a 0.215 MGD extended aeration facility with tertiary sand filters. The average daily flow is roughly 0.1 MGD. The entire collection system was grouted in 1995 to reduce extraneous flows.

Issues

Hessville is an unincorporated area of approximately 80 acres of clustered residential housing units located south of Lindsey. Houses are served by septic systems, many of which do not have functioning leaching fields. As a result, local streams are polluted by septic tank effluent. Hessville is considered a *Critical Home Sewage Disposal Problem Area* by the Sandusky County Health Department. Ohio EPA does not have documentation of a sewage problem in the area, and Hessville is not under orders.

The *Lindsey Facilities Plan* recommended sewerage Hessville and building an interceptor to Lindsey for treatment. This portion of the project was not built because it would have resulted in user rates that were too high, even with a 75% grant. Substantial financial assistance and/or a lower-cost treatment facility will be necessary to serve Hessville. The Lindsey WWTP has adequate capacity to serve Hessville.

Future Wastewater Treatment Needs

The Sandusky County Health Department has recommended that a sanitary sewerage system be built in Hessville. Lindsey has available treatment capacity to serve the town, but financial assistance will be needed. An income survey will probably be needed, but Hessville seems likely to meet USDA and/or HUD requirements. Sandusky County should prepare a General Plan to evaluate options and lay out a financing plan.

Vickery

Sandusky County is responsible for planning any public sewerage system in this unincorporated area, and will own and operate it, if and when built.

Present Facilities

Vickery is an unincorporated community of about 85 houses in Townsend Township. There is no public sewerage system; sewage treatment is provided by individual septic systems. Soils in this area belong to the Toledo-Fulton Association, which are mostly level, very to somewhat poorly drained clays. Suitability for sewage disposal is poor. Vickery is considered a *Critical Home Sewage Disposal Problem Area* by the Sandusky County Health Department.

Issues

The concentration of homes using septic systems on small lots, in soils poorly suited for leaching fields, makes Vickery likely to need a public sewerage system.

Future Wastewater Treatment Needs

A sewerage system will be needed in Vickery eventually. There are several communities in Sandusky County that involve larger populations and bigger problems, and they should receive higher priority.

Wightman's Grove

Sandusky County is responsible for any planning public sewerage system in this unincorporated area, and will own and operate it, if and when built.

Present Facilities

There are not public sewerage facilities in Wightman's Grove. Sewage treatment is provided by individual systems, many of which are believed to have failed. A field survey TMACOG performed found that 52 of the 93 residences and businesses had privies. Health Department records showed 22 septic systems installed and one aerator system, leaving 18 unknown.

Issues

Wightman's Grove is an unincorporated community on the south bank of the Sandusky River near its outlet into Sandusky Bay. The soils in this area belong to the Marsh Land Association, which are level, very poorly drained, and subject to flooding. These soils are very poorly suited for on-site sewage disposal. Wightman's Grove is considered a *Critical Home Sewage Disposal Problem Area* by the Sandusky County Health Department.

Future Wastewater Treatment Needs

The Wightman's Grove sewage problems are further complicated by economic problems. Most of the houses here do not have adequate plumbing, and were never intended to be full-time residences. A sewerage system is definitely needed here, but housing improvements must be included in the solution. An updated General Plan should be the first step (the County General Plan addressed preliminary issues in Wightman's Grove); its implementation should include a financing plan that will make the system affordable to residents. An income

survey would be needed to support grant and low interest loan applications. The area is a likely candidate for the USDA and CDBG grant programs.

Village of Woodville

The Village of Woodville owns and operates wastewater treatment facilities, and a collection system within the corporate limits.

Present Facilities

The Village of Woodville owns and operates an aerated lagoon WWTP with an average daily capacity of 0.3 MGD and peak capacity of 1.0 MGD. The sewer system is 90% combined. Average flow is about 0.31 MGD. The combined sewers are a problem, discharging stormwater and untreated sewage to the Portage River and its tributaries.

Issues

The Woodville WWTP has experienced permit violations on suspended solids and fecal coliform levels due to wet weather flow surges with monthly flows as high as 0.645 MGD. CSO abatement is needed not only to eliminate overflows of untreated sewage, but also to allow the treatment plant to operate efficiently.

The Ohio EPA has placed the Village under a “Findings and Orders” to implement its CSO abatement plan. The Village has abated many of the CSO’s, however three or four of the remaining CSOs commonly discharge during storm events. To reduce overflow problems the Village recently added a new aerated lagoon to the treatment plant.

Future Wastewater Treatment Needs

Woodville recently completed its stormwater storage lagoon at the treatment plant at an estimated cost of \$500,000. With improvements to the CSO regulators, addition of flap gates, and completion of the stormwater lagoon, Woodville’s overflows were reduced. The next step will be to evaluate the effectiveness of these measures and determined whether future improvements are needed.

IV. Telecommunications

Telecommunications in Sandusky County

Telecommunications planning is important to the management of local governments since communication infrastructure is becoming just as important as traditional infrastructure. In rural areas, towers are placed one every 16 or so miles, and the number of telecommunication towers is growing at a rapid pace. In June 1996, there were 24,800 towers in the United States; in June 2001, the figure had jumped to over 100,000.

Currently, the Sandusky County government and citizens are not cohesively linked by the Internet and e-mail services. The commissioner's office and County departments utilize Internet and e-mail services, while the remainder of the government employees utilize an internal e-mail system. The Birchard Memorial Library offers Internet and e-mail services to the citizens of Sandusky County at a minimal fee. There are four primary communication providers in Sandusky County: SBC (formerly Ameritech), MCI, Verizon (formerly known as GTE North), and United of Ohio.

Telecommunications Reform Act of 1996

On February 8, 1996, the Telecommunications Reform Act or S. 652 was enacted into law. The legislation that preceded S. 652 was the Telecommunication Act of 1934. The law allows local and long distance telephone, cable television and other companies to compete in each other's market. In summation, the law brought together competitive sources in order to lower costs.

The Telecommunications Reform Act of 1996 created a policy framework for local governments in three ways. First, the law defined the ability of local government to regulate telecommunications through zoning. It forbids local government from using zoning to prohibit such uses as communications towers. Local officials may not consider presumed health risks from high frequency transmissions in regulating the location of towers. At the same time, the Telecommunications Act asserts the right of local government to protect public interest through zoning, by encouraging the co-location of transmission devices operated by different and competing companies on the same tower, for example.

Second, the law stipulated that local governments must deal with requests to construct communications towers in a timely manner, and cannot use unreasonable delay to restrict telecommunications activity. Third, the County must deal with requests to locate uses such as towers on a nondiscriminatory basis. If a community allows one applicant to use a site for no charge, for example, it will be difficult under the law to charge a significant fee to another applicant. It is anticipated that Sandusky County and the municipalities within its boundaries will receive hundreds of requests in the next five years to construct such towers. It is important for Sandusky County to develop comprehensive policies to deal with these requests.



Strategies and Recommendations

The strategies and recommendations highlighted in this portion should be utilized as a means to embrace further planning for water and sewerage and telecommunications facilities throughout Sandusky County.

Expand the Functionality of the County Water and Sewer District

Meets Water and Sewer Objectives: 1,2,3,5

When the Sanitary Engineer's Department was created in 1975, it was tasked with the responsibility to assist the Board of County Commissioners with duties applicable to both ORC 6117 (County Sewerage Systems), but with ORC 6613 (County Water Supply Systems) as well. Due to the Sanitary Engineer's department being structured in this manner, they have the unique responsibility to oversee the extension of water and sewerage systems to areas lacking public utilities throughout Sandusky County.

Several of the non-community water systems, currently serving mobile home parks, schools, commercial establishments, and private industry, may be better served by receiving potable water service directly from a municipality or County water system. This is due primarily to the importance of providing consistently safe potable water. Also, higher costs associated with increased monitoring and reporting requirements have made the small systems more difficult to operate, while meeting state and federal requirements. These potential service customers have been identified by the Townships they reside in, by the Ohio EPA, and/or by the Sandusky County Health Department. These systems have been incorporated into the various planning areas if they are geographically in proximity with an existing larger system or in an area with a sufficient population density.

Implement the Sandusky County Comprehensive Water and Sanitary Sewer General Plan

Meets Water and Sewer Objectives: 1,2,3,5

The County Commissioners and the Sanitary Engineering Department developed a general plan four years ago to investigate the feasibility of providing potable water service in unincorporated areas of the County where:

- ✓ The installation of private well systems is not desirable due to groundwater quality/quantity issues, or;
- ✓ Residential, commercial, and/or industrial development is being constrained due to a lack of public water facilities.

The Commissioners and their water and sewer plan also investigated the feasibility of providing sanitary sewer service in unincorporated areas of the County where:

- ✓ Pollution problems and failing on-site sewage disposal systems exist;
- ✓ The installation of on-site sewage disposal systems for developing areas is not desirable due to insufficient lot size, soil condition, high groundwater, etc., and;

- ✓ The potential for commercial and/or industrial development is being limited due to the lack of public sewerage facilities.

Although the plan may need updating to include current trends and situations, all new and existing development should conform to the requirements and guidelines established in the County General Plan. Furthermore, the County, in coordination with the Sandusky County Sanitary Engineer and Health Department, should explore solutions to the water supply and sewerage problem areas identified in this plan.

Establish a Policy to Address the Provision of Adequate Public Water and Sewer Facilities in Designated Growth Areas

Meets Water and Sewer Objectives: 6

This Comprehensive Plan encourages a development pattern that where most types of new growth occur in or contiguous to existing cities and villages. In order for these established municipalities to accommodate this growth, water and sewer facilities adequate to accommodate projected growth are essential. The water and sewer systems priority for the County is to locate these systems beyond the designated growth area to correct a public health emergency.

Promote the Implementation of Alternative Sewage Treatment Technologies

Meets Water and Sewer Objectives: 4

The County should encourage the use of alternative sewage treatment technologies. Alternative technologies, such as land treatment, wastewater irrigation, mound systems, and wetlands systems, can lower operating costs, reduce energy demand, reuse wastewater, and eliminate pollutant discharges. These technologies should be utilized to service problematic areas around the county in designated growth areas and in other rural areas of the County with documented public health emergencies and polluted water supplies.

Merge Sandusky County Sewer District #1 with the Sandusky County General Sewer District into A Countywide Sewer District

Meets Water and Sewer Objectives: 2,5

There are several benefits for merging the two sewer districts.

- ✓ Eliminating the boundary on Sewer District #1 would increase the customer base and allow for rates to spread out over a larger customer base. With the current boundaries, Sewer District #1 is restricted from expanding and any increase in rates would be spread out over the current customers.
- ✓ Eliminate the paperwork for indirect costs (wages, equipment, and other services paid proportionally between the two sewer districts and one water district). This would also help reduce paperwork for the County Treasurer's office and the County Auditors in the bookkeeping area.

- ✓ A Capital Improvement Fund could be created that would allow for replacement of existing infrastructure (this would benefit District #1 since the infrastructure is at over half of its design life and no effort was made to set up a Capital Improvement Fund in the past. The Sanitary Engineer's office will start a Capital Improvement Fund for Sewer District #1 in 2003, but the District is already 30 years behind. The General Sewer District has a Capital Improvement Fund in place which was required as part of the construction loans received by the County.
- ✓ Provide for the ability to perform more projects in order of actual need for the entire County. Under the Comprehensive Water & Sewer General Plan (1997), problem areas typically need to have an outside source of funds (County Commissioners, Township, etc.) since there is no source of revenue for most problem areas. This results in problem areas not getting addressed until the situation is severe. Under the General Sewer District, problem areas now have a source but since the General Sewer District is still in its infancy, it will be awhile before the County can realize this benefit.
- ✓ If a County water project occurs in Sewer District #1, another water district would be formed (bringing the total districts to four). This would account to more duplication of efforts and could increase costs to customers.

Promote Industrial Site Planning

Meets Water and Sewer Objectives: 1,2

Certain areas throughout Sandusky County- primarily due to their proximity to existing or planned infrastructure and utilities- should receive additional planning attention in the future. Currently, many organizations promote and encourage economic development at several levels across Sandusky County. While existing industrial sites should take planning and marketing precedence, it is encouraged that those involved with the planning and land development process identify industrial parks that are marketed for intensive future development, and coordinated with county and/or municipal officials to ensure that adequate water and sewerage services be provided commensurate with the planned activities.

Ensure Water Purveyors meet the Insurance Services Office Fire Suppression Standards

Meets Water and Sewer Objectives: 2,5

The water supply, in general, must provide at least 20% of the required fire flow as determined by an analysis of the structures in the community or fire district being evaluated. Requirements will vary for each community; however, to be considered for a classification better than Class 9, the system should be capable of delivering at least 250 gpm for a 2-hour duration, in addition to maximum domestic consumption.

The following types of water systems will usually provide a water supply in the Class 8 range.

- ✓ An elevated tank of at least 50,000 gallon capacity having sufficient height to produce at least 50 psi pressure at fire hydrants throughout the city. The source of supply should be capable for meeting maximum consumption demands to avoid drawing appreciably from storage.
- ✓ Distribution system should be made of 4" or larger mains serving 4" or larger fire hydrants. Distribution system should be capable of delivering at least 500 gpm in business and public building areas, at least 250 gpm should be provided in residential areas. Fire flows should be available at a minimum pressure of 20 psi.
- ✓ Hydrants should be spaced for effective use by the fire department. Usually hydrants spaced 300' - 500' apart in commercial areas and 500' - 800' apart in residential areas will result in a Class 8 range.
- ✓ Alternate method for providing fire protection water supply is to use large diameter hose lines from a supply source using relay pumpers.
- ✓ A third method, more common than method (2), is to provide a fire protection water supply using a tanker shuttle system.

In the latter two methods, a minimum of 250 gpm must be developed within the first 5 minutes of arrival at the fire scene. Please note that a combination of the systems described above may also be used.

Telecommunications Strategies

Meets Telecommunications Objectives: 1

Several strategies that are highlighted in this section should be used to compliment any or all telecommunication strategies the County may have already. As mentioned before, the Act placed several restrictions on local governments regarding the different types of telecommunication services. Regardless of service, however, the County and its municipalities do retain certain regulatory powers, most of which pertain to their rights to ensure public safety and regulate rights-of-ways and land-usage. It is highly recommended that policies be developed that are non-discriminatory and clearly articulated.

A. Personal Wireless Service Facilities

Several new wireless communications technologies have developed in the past few years. Regardless of telecommunication service, they will all require, to varying degrees, the construction of either transmitting equipment (placed either on towers or smaller “mono-poles”) or receiving equipment on public or private land. Most services also require construction in the rights-of-way to lay wires to connect the towers with studios, switches, and computer control points. Rules adopted by the FCC and clarified in Section 253 (a) of the 1996 Act prevent local governments from restricting a consumer’s ability to receive video programming, using satellite dishes, television antennas, and multipoint multi-channel service antennas.

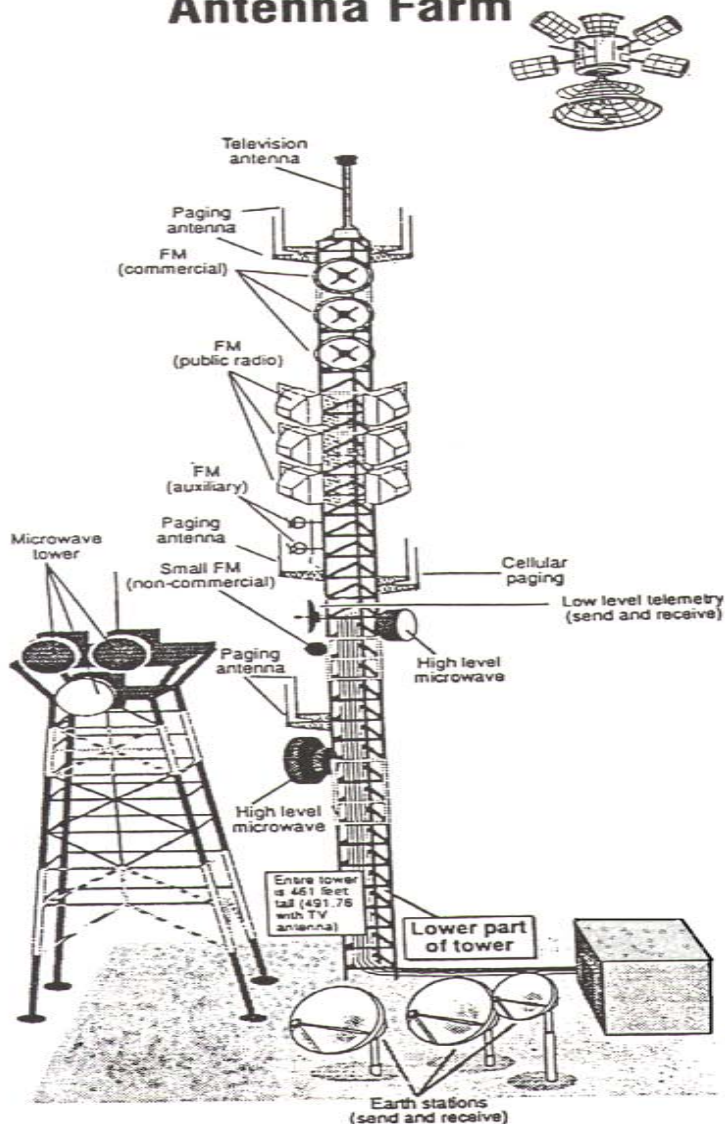
However, Section 253 (c) preserves and affirms local authority over the placement, construction and modification of cellular telephone facilities and other “personal wireless telecommunications service facilities.” To prevent possible service providers from filing grievances against the County or any of its municipalities, it is recommended that each political subdivision’s general zoning ordinance within Sandusky County be reviewed and, where necessary, amended to take into consideration both the welfare of the citizenry and the desire of the FCC to remove entry barriers and heighten competition among all telecommunications vendors.

It is recommended that Sandusky County and its municipalities:

1. Review the current zoning ordinance and propose cellular siting language to determine if the ordinance “unreasonably discriminates among providers of functionally equivalent service.” The best method to prevent discrimination is to adopt measures that treat similar facilities in the same manner. Different treatment based on good reasons such as year of entry into the market, or first come, first served, for sites and towers with limited capacity should be more defensible.
2. Determine if the zoning ordinance totally “prohibits or has the effect of prohibiting” the provision of personal wireless services.

While the Act bans local governments from prohibiting telecommunication services, it doesn’t mean that every locality must allow a cellular tower. For example, a community that is very small geographically and completely residential might be able to show that its residents will be able to attain satisfactory service from cellular towers placed in nearby communities. So prohibiting the siting of towers in any town

Antenna Farm



may not have the effect of prohibiting the provision of the service to its residents. *It is the “provision of the service” that must be allowed, not the sitting of the facility.”*

The County and its several local governments can embrace several techniques to accommodate telecommunication facilities and still maintain community attractiveness and a high quality of life.

B. Utilize a Policy of Co-Location

Co-location means that a number of different providers locate their transmitting facilities together in the same place or on the same towers or monopoles. Co-location, as illustrated by Figure 16, also can include the use of the same tower or pole for a number of different kinds of telecommunications services.

It should be noted that if the County or any community wants to encourage co-location, it cannot “unreasonably discriminate” among personal wireless communication service providers. To protect a policy of co-location from charges of discrimination, it is recommended that Sandusky County or interested local government do the following:

- ✓ Enact the policy into an ordinance.
- ✓ Provide for incentives for co-location. These could include: A shorter processing time for applicants who want to locate on a tower that has already been approved, based on a reasonable conclusion that such a site requires less additional evaluation compared to the legitimate evaluation and review needed for a new site.
- ✓ Place in writing the application process and other procedures for the use of public property.
- ✓ Offer the use of public structures and property, if made available to one provider, to other providers on reasonable similar terms and conditions—no exclusive contracts.

C. Require Advance Planning for Tower Placement

Sandusky County and its municipalities can require or encourage companies to lay out their expected needs for multiple tower sites over a reasonable time into the future, rather than applying for one tower site at a time. Localities might provide incentives for applicants willing to submit long-range plans and multiple site applications. The application fee structure can be used to that end, as can a commitment to expedite processing time. As with co-location, intergovernmental cooperation is the key to success in sharing limited resources across multiple jurisdictions.

D. Identify Potential Locations for Future Facility Sites

Identifying and “mapping” of appropriate facility sites might be a useful tool. The public works director, County Engineer, or other County officials could determine appropriate sites for cellular and other personal wireless communications facilities. Small communities might pool resources to prepare an area-wide list of appropriate sites. This kind of information will be very useful when a jurisdiction evaluates a particular application. It will also help when the County reviews and revises its zoning ordinance. With such a survey in hand, County and local government administrators will be in a better position to approach the cellular industry for its cooperation in agreeing to the siting plan. Some help is also available from the FCC to assist County and local governments in implementing this kind of advance planning. The FCC maintains a general database that lists the location and owner of all towers over 200 feet, towers over 20 feet on existing structures, such as on a building or water tower, and towers that are close to airports. The FCC also maintains a database of cellular and SMR licensees that contains some, but not all, information on existing tower locations.

E. Promote Joint Ventures with Local Government

Some governmental entities have invited private telecommunications providers to bid on the construction of towers to be shared by the local government for public safety communications and by the private sector for its own needs. As a “win-win” situation for all parties, the private sector ultimately gets a tower site on public property, and the County or local government receives a facility built at little or no cost.

In selecting a “joint venture” option the County or municipality should consider undertaking the following measures: consider conducting a study to assess telecommunication needs; conduct a survey of potential sites for construction; consider a lease purchase arrangement that transfers the facility to government ownership after a certain time; provide for non-discriminatory use of the facility by all eligible telecommunications providers; develop a set of specification for joint venture proposals; issue a request for joint venture proposals that is publicly circulated, and; accept competitive bids and evaluate them through regular contract procedures.

F. Satellite Dishes

The Telecommunications Act deals with satellite service reception antennas differently than it does with wireless telecommunications towers and antennas. Overall, the FCC has interpreted the Act’s provisions relating to satellite dishes as being far more restrictive of local regulations. Section 207 of the Act prohibits most state and local restrictions on satellite dishes, MMDS antennas, and television reception antennas. These restrictions are similar to those that govern most telecommunications services insofar as they prohibit governmental bodies from acting arbitrarily and under few, if any, ascertainable standards. A list of these restrictions are fully defined in Section 207 (a).

Certain restrictions can be imposed on small satellite dishes and antennas however. A restriction is permitted, even if it impairs or prevents reception, or imposes unreasonable cost or delay, under the following conditions if:

1. It is necessary to accomplish a clearly defined and articulated safety objective, or;
2. It is necessary to preserve a historic district listed or eligible for listing in the National Register of Historic Places (for historic places not listed with the national register, the County or local government must first obtain an FCC waiver).

G. Other Strategies

Sandusky County and its various political subdivisions can also include the following provisions into their guidance for telecommunication and cellular towers. Some provisions could include:

- ✓ Establishing a minimum lot size for cellular towers. The square footage of a lot must be at least 1 times the tower's height.
- ✓ Requiring each applicant must show a site plan that includes nearest property lines, setbacks, proposed number of antennae and radio frequency coverage.
- ✓ Requiring that companies must have at least three carriers on towers between 90 feet and 120 feet, and at least five carriers for towers above 120 feet.