Pump Station, which is being addressed under section VIII of the Consent Decree. The overflows within the Akron Collection System discharge to the Cuyahoga River, Little Cuyahoga River, Ohio Canal, Tuscarawas River, and Camp Brook.

City of Akron Water Pollution Control Station

Dry weather sanitary and combined sewer flows are conveyed to the WPCS. In 2009, the average daily flow rate to the WPCS was 69.1 million gallons per day (MGD) reaching a peak flow rate of 280 MGD. The WPCS preliminary treatment design capacity is 210 MGD, primary treatment design capacity is 150 MGD, and secondary treatment design capacity is 110 MGD. This allows for full secondary treatment of dry weather flows with some flexibility for treating wet weather flows. Effluent from the WPCS is discharged to the Cuyahoga River. During the recreation season it is disinfected with sodium hypochlorite and dechlorinated with sodium bisulfite. When necessary, dissolved oxygen (DO) can be injected into the effluent stream prior to discharge to increase DO concentrations in the Cuyahoga River.

Maintenance of the System

The City of Akron is responsible for maintenance of the sewers within the City and Akron owned sewers within Bath, Coventry, Copley, and Springfield Townships through Joint Economic Development District (JEDD) agreements. The Summit County Department of Environmental Services (SCDOES) owns and maintains the sewer system components within the Village of Mogadore, City of Munroe Falls, and portions of the system within the City of Cuyahoga Falls, Village of Silver Lake, the City of Stow, and Bath, Copley, and Springfield Townships. Other municipalities are responsible for the system within their jurisdictional boundaries.

History

From 1910-1920, the City of Akron’s population doubled, resulting in Akron becoming one of the fastest growing cities in America. During this period, the majority of the sewer systems were constructed as a combined system within the City. In 1923, the City enacted a Separate Sewer Policy where separate sanitary and storm pipes were required. By 1931, the system had been expanded to include approximately 644 linear miles of sewer pipe, with the majority of the pipe consisting of hot poured asphalt and mortar joints at two foot lengths.

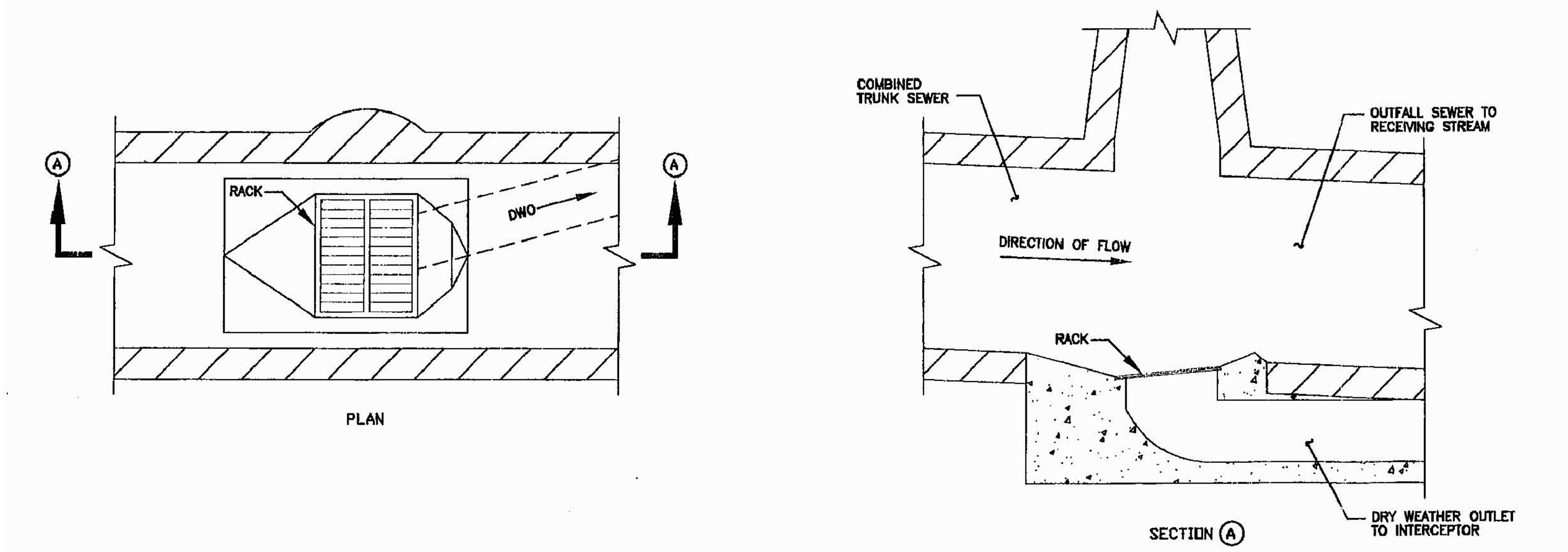
During the next twenty years, 1931-1951, 103 linear miles of sewer was constructed, typically with three foot section pipes. These sections were typically constructed with oakum and die cast joints. From 1952-1964, longer sections of pipe were used, typically four to eight feet in length. Approximately 285 linear miles of sewer was constructed with either die cast or premium joints. The construction of the sewer system started to decrease from 1965-1978, when only 104 linear miles of sewer was added. These pipes ranged in length between five-and-a-half to eight feet with premium joints. From 1979-1998, approximately 29 linear miles of sewer were added, typically consisting of eight foot pipe lengths with premium joints. Since 1998 to present, the sewer system has approximately increased by an additional 195 linear miles. The vast increase in sewer pipes since 1998 is mostly due to additional sewers within the JEDD agreement areas and the separation of CSOs. The larger sewers in the system were constructed of two and three ring brick, segmented block, concrete pipe, PVC, and reinforced fiberglass during all of the periods described.

CSOs within the System

A rack is a static regulator that receives combined sewer flows. Each rack consists of a combined sewer inlet, a combined sewer overflow, a bar grate, and a drop inlet to an underflow pipe. Dry and wet weather flows pass through the grate into the underflow pipe. The underflow pipe then transports the flows to the interceptor. The flow is conveyed to the combined sewer overflow and discharged at a point source location when the capacity of the combined sewer inlet is exceeded or the water surface elevation exceeds the height of the weir. A typical rack detail is shown in Figure 1-3.

Permanent flow monitoring devices were installed at rack locations to record the flow and depth at each outfall during system overflows. Improvements since the 1990s allow racks to be remotely monitored with level sensors connected to the Supervisory Control and Data Acquisition (SCADA) system, which is monitored in the Sewer Maintenance dispatch office. During an overflow event, the level readings are used to calculate overflow volumes and an alarm is registered on the SCADA system.

Improvements to the collection system have eliminated or significantly reduced four CSOs since 1998. Racks 9 and 39 have been eliminated through the addition of separate sanitary sewer lines in the area. In addition, overflow from Racks 30, 31, and 40 are controlled by the Cuyahoga Street Storage Facility, a new CSO storage facility



Cuyahoga River Renewed
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CSO LONG TERM CONTROL
PLAN UPDATE

FIGURE 1-3

CITY OF AKRON
TYPICAL RACK DETAIL

that was completed in 2006. This location stores the overflow in a 9.5 million gallon concrete storage basin. While Rack 30 is currently being controlled by the Cuyahoga Street Storage Facility, it will be separated in the future.

The City of Akron sewer system has thirty-four permitted CSOs, listed in Table 1-1, per the proposed Consent Decree lodged in November 2009 and the City's 2010 NPDES permit effective September 1, 2010. Twenty-one of the CSOs overflow to the Little Cuyahoga River, seven to the Ohio Canal, five to the Cuyahoga River, and one to Camp Brook. These CSO locations, and eliminated CSOs, are shown in Figure 1-4.

1.3 Land Use Data and Demographics

The land use and demographics of the sewer system planning area is important in the assessment of the system, including system flows, alternatives evaluation, and financial impacts. The following major land use data pertains to residential, commercial, and industrial development. Demographics include population, unemployment rate, and median household incomes.

1.3.1 Land Use Data

The following is the basic land use data for the City of Akron's sewer system planning area. The land use data is based on the Facilities Plan '98 (1998). A more detailed assessment, including land use controls, land use planning, climate, topography, geology, and soils is presented in Appendix 1-A.

A detailed breakdown of each community land use within the sewer system planning area is shown in Table 1-2 and Figure 1-5, taken from the Facilities Plan '98 (1998).

Table 1-1 Permitted CSOs within Akron's Collection System

Rack No.	Latitude	Longitude	Location Description	Receiving Water	CSO Station Number
2N & 2S	41 03' 34"	81 28' 26"	South Arlington District at Retention Tank No. 2 - 9th Avenue at Settlement Street	Little Cuyahoga	3PF00000081
3	41 03' 50"	81 28' 52"	Kelly Avenue near the expressway exit ramp	Little Cuyahoga	3PF00000046
4	41 05' 02"	81 31' 12"	Mill Street near Dart Avenue	Ohio Canal	3PF00000047
5	41 04' 12"	81 29' 20"	River Street near Case Avenue	Little Cuyahoga	3PF00000048
6	41 03' 54"	81 28' 59"	Factory Street near River Street	Little Cuyahoga	3PF00000049
7	41 04' 10"	81 29' 18"	Case Avenue at South Case Avenue	Little Cuyahoga	3PF00000050
8	41 04' 20"	81 29' 09"	North Case Avenue & Dublin Street	Little Cuyahoga	3PF00000051
10	41 04' 27"	81 29' 01"	Eastland & Case Avenue at Newton Street intersection	Little Cuyahoga	3PF00000053
11	41 04' 45"	81 29' 08"	Hazel Street Trunk, District 4	Little Cuyahoga	3PF00000054
12	41 05' 13"	81 29' 34"	Home Avenue District	Camp Brook	3PF00000055
13	41 05' 13"	81 29' 34"	Southeast of Arlington and North Street intersection	Little Cuyahoga	3PF00000056
14	41 05' 07"	81 29' 44"	North Forge Street north of railroad tracks	Little Cuyahoga	3PF00000057
15	41 05' 25"	81 30' 14"	Forest Hill District in park ravine	Little Cuyahoga	3PF00000058
16	41 04' 42"	81 31' 22"	Wolf Ledges Trunk	Ohio Canal	3PF00000059
17	41 04' 45"	81 31' 19"	Exchange Street	Ohio Canal	3PF00000060
18	41 05' 09"	81 31'09"	South of Beech Street	Ohio Canal	3PF00000061
19	41 05' 10"	81 31' 08"	West Market Street	Ohio Canal	3PF00000062
20	41 05' 28"	81 31' 03"	West North Street	Ohio Canal	3PF00000063
21	41 05' 31"	81 30' 57"	North Howard Street	Little Cuyahoga	3PF00000064
22	41 05' 33"	81 30' 57"	North Hill Trunk near North Howard Street	Little Cuyahoga	3PF00000065

Table 1-1 Permitted CSOs within Akron's Collection System (Continued)

Rack No.	Latitude	Longitude	Location Description	Receiving Water	CSO Station Number
23	41 05' 38"	81 31' 09"	North Maple Street	Little Cuyahoga	3PF00000066
24	41 05' 39"	81 32' 14"	West Market Street Outlet near Ravine Street	Little Cuyahoga	3PF00000067
25	41 05' 40"	81 32' 15"	Otto Street District	Little Cuyahoga	3PF00000068
26	41 06' 08"	81 31' 39"	Southeast of Hickory Street and Memorial Pkwy intersection	Little Cuyahoga	3PF00000069
27	41 06' 15"	81 31' 38"	Uhler Avenue near Memorial Parkway	Little Cuyahoga	3PF00000070
28	41 05' 15"	81 31' 39"	West of Tallmadge Ave near Memorial Pkwy Bridge, east of Hickory Street	Little Cuyahoga	3PF00000071
29	41 06' 33"	81 31' 39"	Uhler Avenue - Carpenter Street Outlet	Little Cuyahoga	3PF00000072
32	41 07' 12"	81 31' 20"	East of Cuyahoga Street and Peck Road intersection.	Cuyahoga	3PF00000075
33	41 07' 23"	81 30' 38"	Northside Interceptor near Cuyahoga River & Main Street	Cuyahoga	3PF00000076
34	41 07' 24"	81 29' 54"	Riverside Drive District along the MetroParks Easement Road	Cuyahoga	3PF00000077
35	41 07' 04"	81 29' 37"	Gorge Boulevard District near Front Street Bridge	Cuyahoga	3PF00000078
36	41 07' 19"	81 32' 02"	Merriman off Poulson Street, east of abandoned railroad track bed	Cuyahoga	3PF00000079
37	41 04' 48"	81 31' 12"	Cascade Parking Garage off Bowery Street	Ohio Canal	3PF00000080
30,31,40	41 06' 54"	81 31' 40"	Cuyahoga Street Storage Facility	Little Cuyahoga	3PF00000083

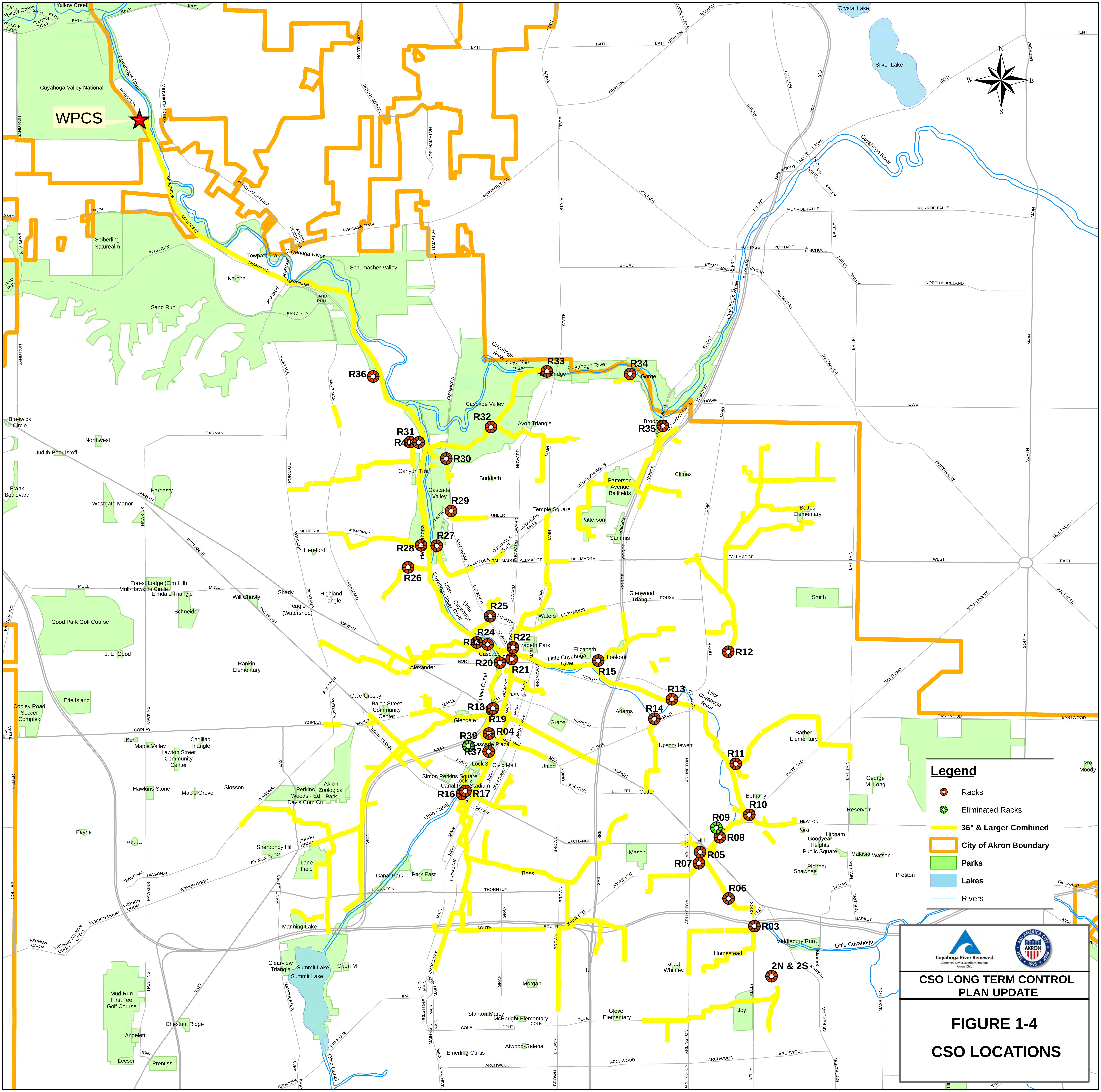
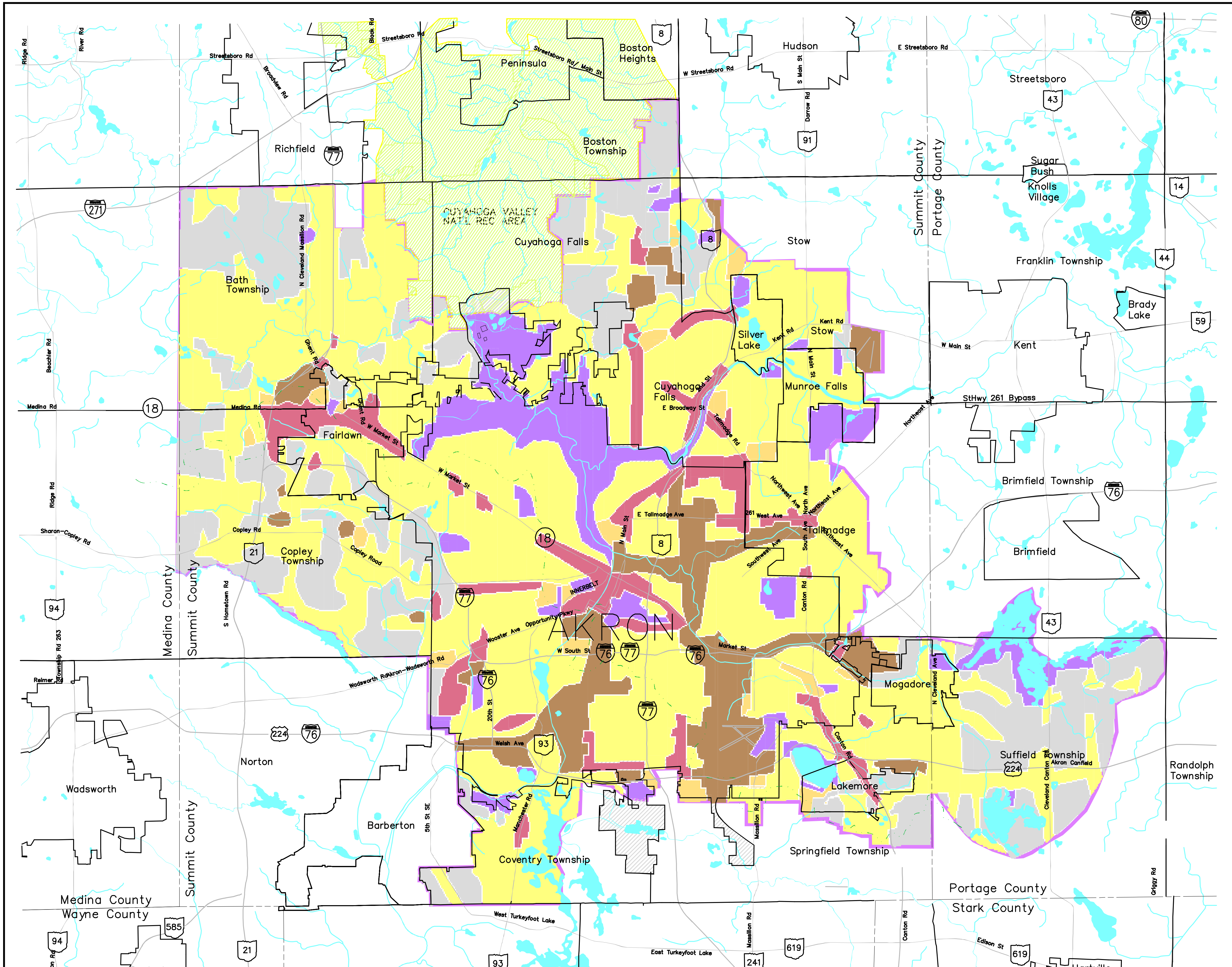


FIGURE 1-4
CSO LOCATIONS

Table 1-2 Planning Area Land Use

Community	Land Use Category							
	Residential (acres)	Commercial (acres)	Industrial (acres)	Transportation (acres)	Public/Parks (acres)	Vacant (acres)	Water (acres)	Total (acres)
Akron	15,159	2,503	2,935	7,180	5,796	8,767	851	43,191
Bath Township	3,227	265	20	926	850	8,344	251	13,883
Boston Township	77	12	0	84	2,727	68	46	3,014
Brimfield Township	14	2	0	9	510	68	515	1,118
Copley Township	2,173	265	135	701	323	7,063	290	10,950
Coventry Township	1,159	151	21	321	394	1,796	426	4,268
Cuyahoga Falls	3,639	662	252	1,285	1,202	4,554	161	11,755
Fairlawn	756	203	4	333	492	1,090	17	2,895
Lakemore	270	40	5	87	42	363	132	939
Mogadore	410	82	185	130	123	268	18	1,216
Munroe Falls	531	18	24	139	154	580	47	1,493
Silver Lake	448	11	1	109	139	199	137	1,044
Springfield Township	1,293	141	40	354	201	1,744	236	4,009
Stow	1,236	85	51	474	139	1,751	60	3,796
Suffield Township	803	44	33	413	1,013	5,641	1,103	9,050
Tallmadge	1,799	167	113	313	217	1,782	15	4,406
Total	32,994	4,651	3,819	12,858	14,322	44,078	4,305	117,026
Percent of Planning Area	28.2%	4.0%	3.3%	11.0%	12.2%	37.7%	3.7%	100.0%



SCALE: 1"=10,000'

LEGEND

- ULTIMATE SERVICE AREA BOUNDARY
- WATERSHED DIVIDE
- CITY OF AKRON BOUNDARY
- MUNICIPAL BOUNDARIES
- RIVERS AND LAKES
- NATIONAL PARKS
- COUNTY LINE
- RESIDENTIAL (LESS THAN 10D.U./ACRE)
- RESIDENTIAL (MORE THAN 10 D.U./ACRE)
- COMMERCIAL
- INDUSTRIAL
- METRO PARKS AND PUBLIC FACILITIES
- VACANT

SOURCE: VARIOUS COMMUNITY LAND USE AND ZONING REPORTS

Cuyahoga River Renewed
Combined Sewer Overflow Program
Akron, Ohio

CSO LONG TERM CONTROL PLAN UPDATE

FIGURE 1–5

GENERALIZED EXISTING LAND USE

Residential

The City of Akron is the largest contributor to the planning area's residential land use, encompassing nearly 37% of the total area. The City dominates the majority of the land use categories, except vacant areas and water. The City of Akron still has the largest vacant area within the system; however, Bath and Copley Townships have significant vacant areas, with each having less than a third of Akron's total area.

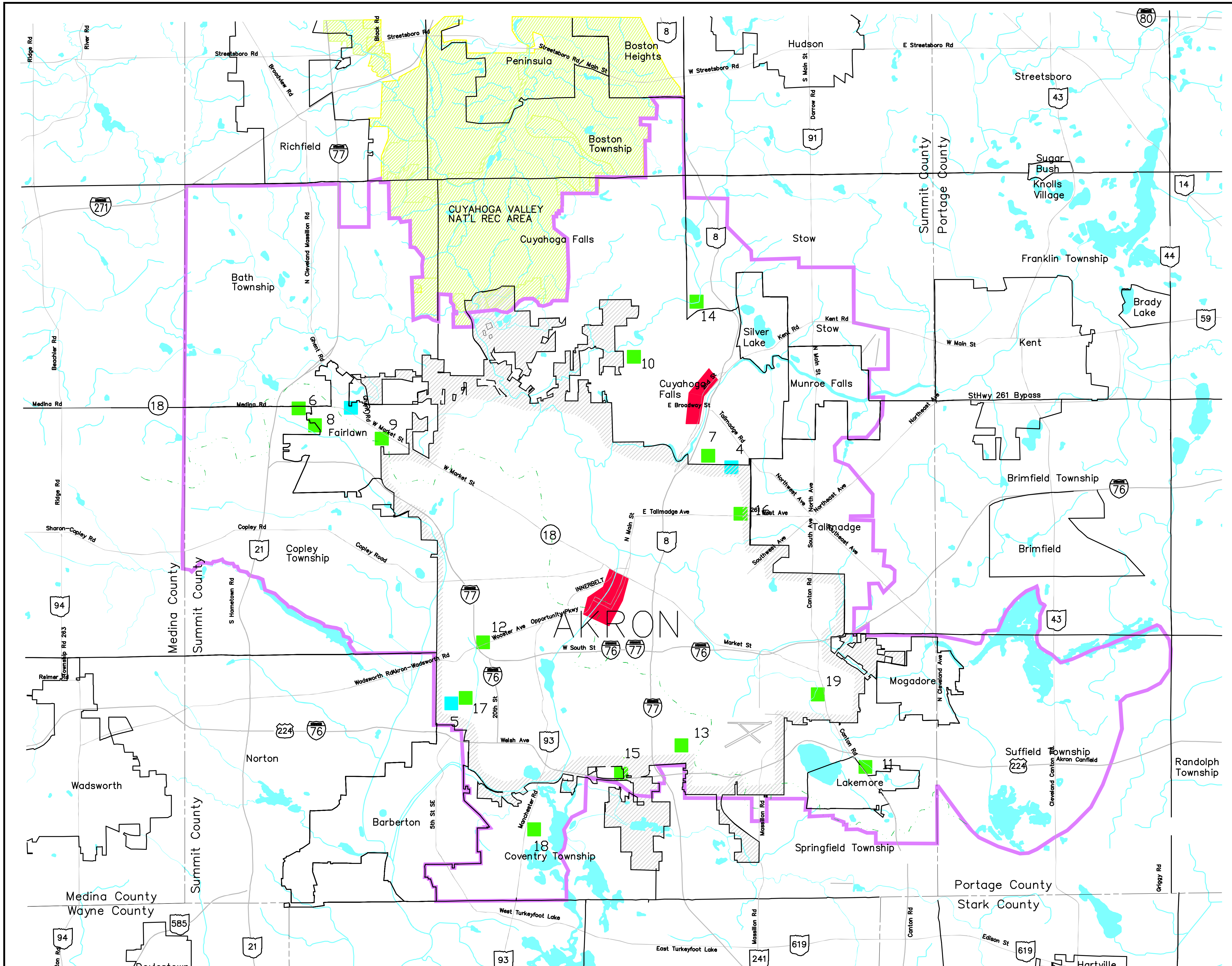
The City of Akron and Cuyahoga Falls contain the largest and densest populations. In these areas, the land allotments are small and more people tend to live in apartments/buildings. Areas that contain more residential space are not necessarily communities with the smallest residential populations. The communities with the lowest densities are Bath, Copley, and Suffield Townships.

Commercial

The City of Akron and Cuyahoga Falls contain the largest acreage of commercial land use within the planning area due to their central business districts. Central business districts are mainly located in dense population areas containing high land values and multi-story buildings, such as the City's downtown. Newer commercial centers are located along the perimeter of urban areas. These commercial centers are located in such places as Copley and Fairlawn, on Route 18, and in Cuyahoga Falls on Graham Road. The above commercial land use locations can be seen on Figure 1-6.

Industrial

Over 75% of the industrial land use within the planning area is within the City of Akron. The City is the main contributor to the industrial land use due to its transportation system (highways, rivers, and railroads) that allow it to supply the needs of large industrial companies like the Goodyear Tire and Rubber Company. However, industrial parks constructed at the outskirts of the City have become a developing trend. Figure 1-7 shows the industrial park trends at the perimeter of the City.



SCALE: 1"=10,000'

LEGEND

ULTIMATE SERVICE AREA BOUNDARY

WATERSHED DIVIDE

CITY OF AKRON BOUNDARY

MUNICIPAL BOUNDARIES

RIVERS AND LAKES

NATIONAL PARKS

COUNTY LINE

MAJOR COMMERCIAL CENTERS

CENTRAL BUSINESS DISTRICTS
1 AKRON
2 CUYAHOGA FALLS

REGIONAL SHOPPING MALLS
3 SUMMIT MALL
4 CHAPEL HILL MALL
5 ROLLING ACRES MALL

SHOPPING CENTERS
6 MARKET SQUARE AT MONTROSE
7 PLAZA AT CHAPEL HILL
8 ROSEMONT COMMONS
9 FAIRLAWN TOWN CENTER
10 STATE ROAD SHOPPING CENTER
11 TRI-COUNTY PLAZA
12 HAWKINS PLAZA
13 ARLINGTON PLAZA
14 GRAHAM SQUARE
16 MIDWAY PLAZA
15 SOUTH PLAZA
17 ROMIG SQUARE
18 COVENTRY PLAZA
19 EASTGATE ELLET PLAZA

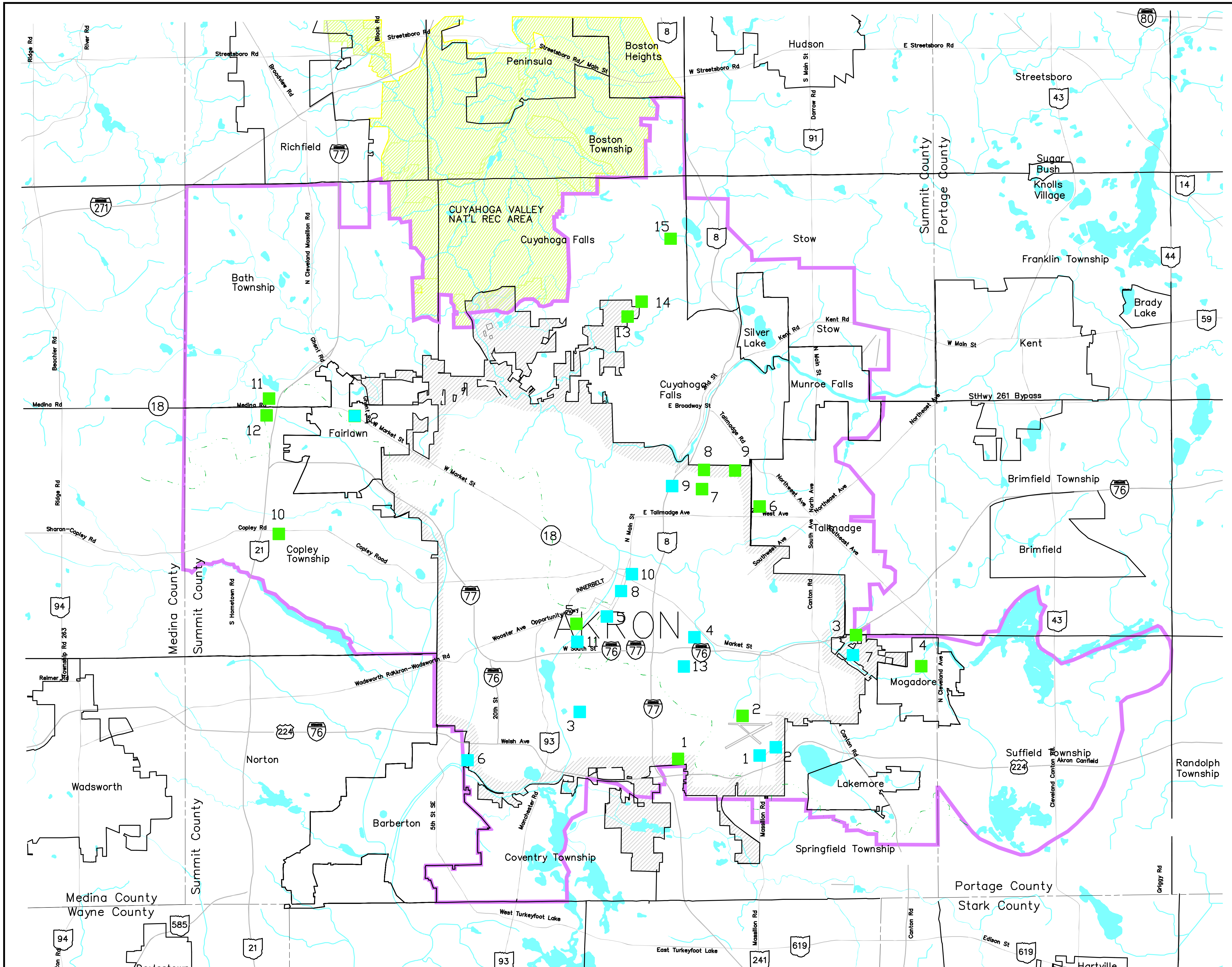
Source: Akron Metropolitan Transportation Study, "Major Commercial Centers", and other sources.

Cuyahoga River Renewed
Combined Sewer Overflow Program
Akron, Ohio

CSO LONG TERM CONTROL PLAN UPDATE

FIGURE 1-6

COMMERCIAL LAND USE LOCATIONS



SCALE: 1"=10,000'

LEGEND

- WATERSHED DIVIDE
- CITY OF AKRON BOUNDARY
- MUNICIPAL BOUNDARIES
- RIVERS AND LAKES
- NATIONAL PARKS
- COUNTY LINE

INDUSTRIAL EMPLOYERS (OVER 500 EMPLOYED)
1 AIRCRAFT BRAKING SYSTEMS INC.
2 LOCKHEAD MARTIN TACTICAL DEFENSE
3 BRIDGESTONE/FIRESTONE TECHNICAL CO.
4 GOODYEAR TIRE & RUBBER COMPANY
5 BEACON JOURNAL PUBLISHING COMPANY
6 REITER DAIRY INC.
7 FRED ALBRECT GROCERY COMPANY
8 FIRST ENERGY
9 ROADWAY EXPRESS INC.
10 WEAVER INDUSTRIES INC.
11 AES
12 GENCORP
13 GOODYEAR TECH CENTER

INDUSTRIAL PARKS
1 AKRON SQUARE INDUSTRIAL PARK
2 AKRON MUNICIPAL AIRPORT INDUSTRIAL PARK
3 KENNEDY INDUSTRIAL PARK
4 A.C. & Y. INDUSTRIAL PARK
5 OPPORTUNITY PARK INDUSTRIAL PARK
6 TALLMADGE INDUSTRIAL PARK
7 EVANS AVENUE INDUSTRIAL PARK
8 CHAPEL CENTER INDUSTRIAL PARK
9 WALSH INDUSTRIAL PARK
10 COPLEY INDUSTRIAL PARK
11 EMBASSY CORPORATE PARK
12 MONTROSE DEVELOPMENT PARK
13 ASCOT INDUSTRIAL PARK
14 BELL INDUSTRIAL PARK
15 WYOGA LAKE INDUSTRIAL PARK

Source: Akron Metropolitan Transportation Study draft maps, Crain's Cleveland Business, and other sources.

Cuyahoga River Renewed
Combined Sewer Overflow Program
Akron, Ohio

CSO LONG TERM CONTROL PLAN UPDATE

FIGURE 1-7

INDUSTRIAL LAND USE LOCATIONS

1.3.2 Demographics

Population data and estimated population data were obtained from the U.S. Census Bureau (2010). The population is estimated after the year 2000 since the 2010 Census is not available at the time of this report. The estimates are provided by the Bureau's Population Estimate Program with the assistance of the Federal State Cooperative Program for Population Estimates.

Population

Summit County has fluctuated between rapid growth, a 7.8% increase in population from 1960-1970, and moderate decline, such as a 5.2% decrease in population from 1970-1980, within the last forty years. However, the estimated 2009 population is 542,405; which is stable compared to the year 2000.

The communities that are entirely within the sewer system have decreased in population by a total of 3,268 people from 1990-2000. Conversely, in communities that are partially within the planning area the population has increased by 4,779 people. The contributors to the increase are the cities of Stow and Tallmadge, which have increased in population by 4,437 and 1,520 people respectively from 1990-2000. The populations in communities that are part of the JEDD agreements have decreased by 1,178 people in these areas from 1990-2000. The populations from 1960 to 2000 for each community are summarized in Table 1-3.

The City of Akron is the municipality with the largest population in the existing sewer system and has been consistently decreasing in population since the 1960s. The City has had a 6% decrease in population from 1980-1990 and a 2.7% decrease from 1990-2000.

In 2000, the City of Akron's total population was 217,074 people. An estimated 2008 population of 207,510 people shows that the population is decreasing at a rate of 4.4% from 2000-2008 as revealed in Figure 1-8.

Table 1-3 Populations of Cities within the Sewer Collection System

Community	Population					% Change 1980-1990	% Change 1990-2000
	1960	1970	1980	1990	2000		
Summit County	513,569	553,371	524,472	514,990	542,899	-1.8	5.4
Portage County	91,798	125,868	135,856	142,585	152,061	5.0	6.6
Akron	290,351	275,425	237,177	223,019	217,074	-6.0	-2.7
Cuyahoga Falls	47,922	49,678	43,710	48,950	49,374	12.0	0.9
Fairlawn	3,234	6,102	6,100	5,779	7,307	-5.3	26.4
Lakemore	2,765	2,708	2,744	2,684	2,561	-2.2	-4.6
Mogadore	3,851	4,825	3,061	2,967	3,893	-3.1	31.2
Munroe Falls	1,828	3,794	4,731	5,359	5,314	13.3	-0.8
Silver Lake	2,655	3,637	2,915	3,052	3,019	4.7	-1.1
Stow	12,194	19,847	25,303	27,702	32,139	9.5	16.0
Tallmadge	10,246	15,274	15,269	14,870	16,390	-2.6	10.2
Bath Township	4,613	7,552	8,476	9,015	9,635	6.4	6.9
Copley Township	6,422	8,633	9,810	11,130	11,076	13.5	-0.5
Coventry Township	13,317	13,429	11,951	11,295	10,900	-5.5	-3.5
Springfield Township	15,822	16,921	16,125	14,773	13,424	-8.4	-9.1

Entirely served by Sewer System

Portions are served by Sewer System

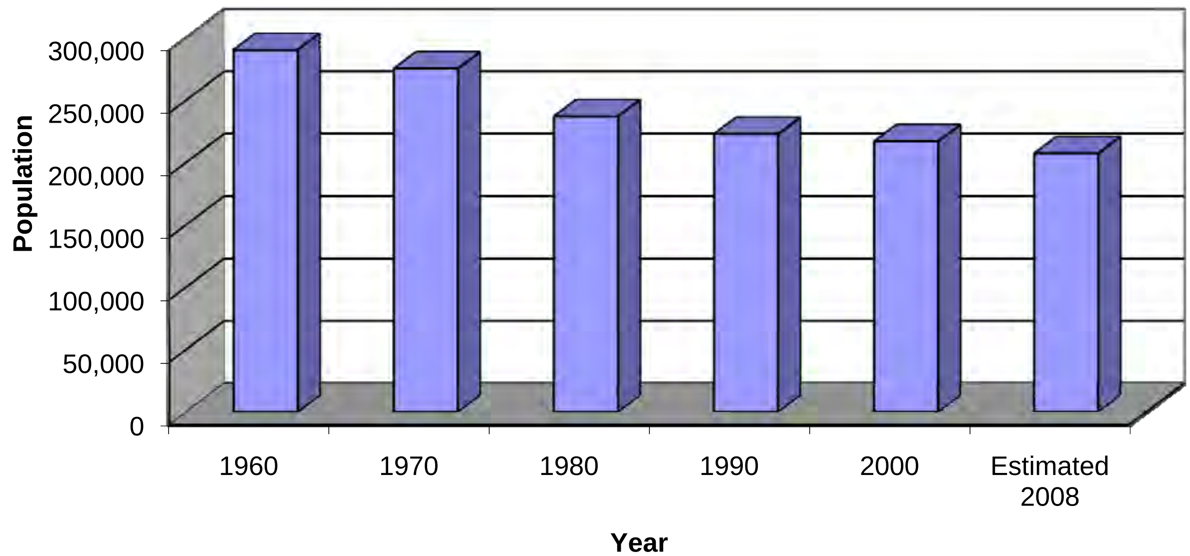


Figure 1-8 Population in Akron, Ohio

Unemployment Rate and Median Household Income

The local unemployment rate and median household income was evaluated, per the Updated Financial Capability Assessment and Affordability Analysis for Akron's CSO LTCP (2010), located in Appendix 1-B, and is summarized herein. The evaluation was based on the Retail Service Area (RSA), which includes the entire City of Akron and portions of the surrounding Summit County (County).

The unemployment rate in the City of Akron RSA has increased from 7.06% in 2000 to 10.63% in 2009. In 2009, the national unemployment rate was 9.28%. According to USEPA guidelines, Akron's RSA had a weak financial capability because the unemployment rate was more than 1% higher than the national unemployment rate. From 2000 to 2009, the unemployment rate in the City of Akron increased by approximately 3.29%, while the unemployment rate in the RSA (excluding the City of Akron) has increased by 6.56%.

For eight of the ten years between 1999 and 2009, unemployment in the Akron RSA was more than one percent higher than the national unemployment rate. The average unemployment rate from 1999-2009 was 1.55% above the national rate, giving the City an average "weak" unemployment rate score during those combined ten years. The above trends suggest that more jobs are being lost in Akron's RSA, resulting in people moving to other areas outside the RSA. Also, the high unemployment rate has led to foreclosure problems.

The result of the high unemployment rate is not only a problem within Akron's RSA, but for the County and the State of Ohio. Unemployment has increased 4.93 percentage points in the County from 2000-2009, with a 6.01 percentage point increase in unemployment for the County outside the City of Akron. This suggests that the entire region is being affected by the recession, not just major cities. Also, the State of Ohio has consistently been below the national Nonfarm Payroll Employment, as shown in Figure 1-9. Akron's RSA is thus following the State and County trend of increasing unemployment rates.

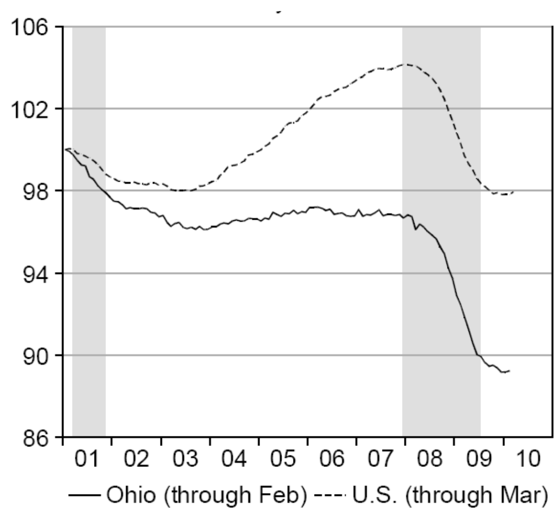


Figure 1-9 Nonfarm Payroll Employment (January 2001 = 100)

Since 2000, Akron's RSA has shown an increase in median household income (MHI) by an average annual change of 0.60%. This average annual change is greater than the City of Akron's average annual change of 0.26%. However, even with a steady increase in MHI, the rate does not compare to the 1.62% average annual change of the County or the 2.74% average annual change of the Nation.

Akron's RSA has an estimated MHI of $34,531, which is 37.1% lower value than the 2010 estimated national MHI of $54,892. This gives the Akron RSA's MHI a weak rating based on USEPA benchmarks.

In 2007, a year before the recession started, Akron's poverty rate was 23.6%, a level that was far higher than the national average rate of 13.0%. In comparison with 75 other cities within 50,000 of Akron's population, Akron has the 11th highest poverty rate and 5th lowest MHI for the year 2007.

Over 82% of the students within the Akron City School District were qualified for the federal free lunch program and classified as "economically disadvantaged" for the 2008/2009 school year.

The above data suggests that Akron's RSA is progressing at a slower rate than the County and Nation, which could be due to the result of the high unemployment rates and limited job growth opportunities.

1.4 Land Use and Demographic Projections

Land use and demographic projections help with the assessment of future demands for the sewer system. These projections can help determine how long the sewer system can handle future demands without having to be expanded, how to size the system appropriately to save costs, or where additional sewer lines will have to be installed to accommodate development.

1.4.1 Land Use Projections

The following land use projections are based on the Facilities Plan '98 (1998). The Facilities Plan used AMATS traffic zone data to determine projected land use information for the year 2016.

The total planning area is projected to reach 51% of intensive land use in 2016, which is a 4% increase since 1996. The intensive land use area includes residential, commercial, industrial, and transportation uses. The primary land uses (residential, commercial, and industrial) have a projected increase from 41,531 acres in 1996 to 47,155 acres in 2016. A detailed breakdown for each primary land use component in each of the communities can be seen in Table 1-4.

Residential Projections

The City of Cuyahoga Falls is projected to have the largest increase in residential area, consisting of 1,701 additional acres, a 46.74% increase between the years 1996-2016.

Table 1-4 Primary Land Use Projections for 2016

Community	Residential			Commercial			Industrial		
	1996 acres	2016 acres	% Change 1996 - 2016	1996 acres	2016 acres	% Change 1996 - 2016	1996 acres	2016 acres	% Change 1996 - 2016
Akron	15159	15904	4.91	2503	2668	6.59	2935	2683	-8.59
Bath Township	3227	4164	29.04	260	300	15.38	20	22	10.00
Boston Township	77	29	-62.34	12	12	0.00	0	0	0.00
Brimfield Township	30	33	10.00	2	1	-50.00	0	0	0.00
Copley Township	2173	2658	22.32	265	406	53.21	135	146	8.15
Coventry Township	1159	1247	7.59	151	144	-4.64	21	21	0.00
Cuyahoga Falls	3639	5340	46.74	662	694	4.83	252	233	-7.54
Fairlawn	756	937	23.94	203	291	43.35	4	1	-75.00
Lakemore	270	275	1.85	40	41	2.50	5	5	0.00
Mogadore	410	429	4.63	82	88	7.32	185	171	-7.57
Munroe Falls	531	707	33.15	18	23	27.78	24	25	4.17
Silver Lake	448	517	15.40	11	14	27.27	1	1	0.00
Springfield Township	1293	1395	7.89	141	158	12.06	40	41	2.50
Stow	1236	1555	25.81	85	104	22.35	107	113	5.61
Suffield Township	803	1160	44.46	44	67	52.27	33	39	18.18
Tallmadge	1799	1918	6.61	167	237	41.92	113	138	22.12
Totals	33010	38268	15.93	4646	5248	12.96	3875	3639	-6.09

This is due to the large amount of vacant land added in Cuyahoga Falls from the Northampton Township merger. This residential land development will be near the Cuyahoga Valley National Recreation Area at the border with the City of Akron, along with the State Route 8 corridor.

Bath Township is projected to have an increase of 937 residential acres, which is the second largest increase projected from 1996-2016. Even with a residential increase of 29%, the population density will still be low due to the zoning requirement within the township to only allow large lots for single family development.

The City of Akron is projected to have the third largest residential land use growth of 745 additional residential acres from 1996-2016. This is mostly due to redevelopment within the City's commercial and industrial areas. Boston Township, Brimfield Township, Coventry Township, Lakemore, Mogadore, Springfield Township, and Tallmadge are all projected to have a 10% or lower increase in residential acreage. The remaining communities are projected to have moderate increases greater than 15% compared to their 1996 residential acreage.

Commercial Projections

In 1996, the City of Akron had over 50% of the commercial land usage within the system's planning area. Projected growth in the City of 165 additional acres of commercial use from 1998-2016 would result in a 6.59% increase. Copley Township is expected to have the highest increase in commercial growth from 1996-2016, with an increase rate of 53.21% creating 141 additional acres of commercial use. Fairlawn and Tallmadge are expected to continue their commercial use trends by making noticeable advances in their service centers, while the remaining communities will make subtle advancements in commercial development.

Industrial Projections

The total planning area is projected to see a reduction in industrial land use over the period 1996-2016. The City of Akron is projected to lose 252 industrial acres from 1996-2016. The remaining communities will stay stable, except Tallmadge which is expected to add 25 industrial acres within their community from 1996-2016.

1.4.2 Demographic Projections

Populations were projected based on trends established from the 2000 census and the estimated 2009 population, per the U.S. Census Bureau (2010). The percentage of population increase/decrease from 2000-2009 for each community was used to project the 2018 data for communities entirely served by the sewer system, as shown in Table 1-5.

Table 1-5 Estimated 2018 Populations

Community	Population[1]	Estimated 2009 Population[1]	% Change 2000-2009	Projected 2018 Population	Population Increase/Decrease from 2009-2018
Summit County	542,899	542,405	-0.1	541,912	-493
Akron	217,074	207,016	-4.6	197,425	-9,591
Cuyahoga Falls	49,374	51,095	3.5	52,876	1,781
Fairlawn	7,307	7,007	-4.1	6,720	-287
Lakemore	2,561	2,864	11.8	3,203	339
Mogadore	3,893	3,914	0.5	3,936	22
Munroe Falls	5,314	5,148	-3.1	4,988	-160
Silver Lake	3,019	3,094	2.5	3,171	77

[1] *U.S. Census Bureau (2010)*

Summit County is projected to stay stable, losing less than 500 people from 2009-2018. However, the biggest population decrease will be in the City of Akron. Akron is projected to lose nearly 10,000 people during the nine year span. The only community projected to contain any significant increase from 2009-2018 is Cuyahoga Falls, which will increase by approximately 1,800 people. Overall, the communities that solely use Akron's sewer system is projected to have a decrease in population from 2009-2018 of 7,819 people. This decrease in population, especially in the City of Akron, will result in residents having to pay higher rates than if the area's population was steady or increasing.

1.5 Regulatory Framework

The City of Akron complies with many rules and regulations when maintaining and operating their sewer system. The three main regulatory frameworks are the NPDES permit, CSO Control Policy, and the Consent Decree. The NPDES permit is issued by OEPA and authorizes where the sewer system can properly discharge plant effluent and overflows, including monitoring station requirements and effluent limits. The CSO Control Policy provides guidance for the preparation of the LTCPs. The Consent Decree is an agreement among the USEPA, the OEPA, and the City on how the City will meet the objectives of the Combined Sewer Overflow Control Policy and be in compliance with the terms and conditions of Akron's current NPDES permit.

1.5.1 National Pollutant Discharge Elimination System Permit

The NPDES permit program was implemented in 1972 as a solution for controlling the amount of waste placed in the nation's waters through point source discharges. These point sources include discharges from municipal and industrial systems.

Any conveyance through a point source that is discharging pollutants to a receiving water has to obtain a NPDES permit. If the owner of the point source does not obtain a permit, it is considered illegal and legal action may take place. However, with the permit, the point source is allowed to discharge pollutants into surface waters as long as it is in accordance with EPA's NPDES rules and regulations. In 1977, the Clean Water Act (CWA) was amended to the NPDES program to help control toxic discharges. Also, the Water Quality Act of 1987 requires that NPDES permits include control measures that would protect the quality of receiving waters and their designated uses.

Akron's 2010 NPDES Permit

The 2010 NPDES permit, 3PF00000*LD, was issued by Ohio EPA (OEPA) with an effective date of September 1, 2010. The 2010 NPDES permit contains 34 CSOs and provides additional effluent limits at certain permit locations. The permitted CSO list was revised to reflect changes in the system since the 1994 NPDES permit. Racks 9 and 39 have been eliminated due to the addition of separate sewer lines. Racks 30 and 31 have been combined with Rack 40 to convey overflows to the Cuyahoga Street Storage Basin, resulting in a single overflow point for the basin (monitoring point 3PF00000083). Appendix 1-C contains the entire 2010 NPDES permit.

The CSOs in the 2010 NPDES permit are required to be monitored differently than in the 1994 NPDES permit. In the 1994 NPDES permit, all overflows were monitored for only volume, occurrence, and duration. In the 2010 NPDES permit, Racks 14, 17, 18, 19, 21, 28, and 35 are monitored for overflow occurrences and overflow volume. The remaining overflow racks are required to be monitored on a rotating basis for overflow occurrence, overflow volume, total suspended solids, nitrogen, ammonia, E. coli, and $CBOD_5$. These new monitoring requirements will become effective on March 1, 2011. The data will be reported in a Discharge Monitoring Report submitted monthly to the OEPA.

Monitoring updates have been set for the outfall 3PF00000001 where effluent from the WPCS is discharged into the Cuyahoga River. The major effluent limitations for this outfall are that chlorine residual should not exceed 0.024 mg/l, the effluent must have a minimum dissolved oxygen level of 5.0 mg/l, and fecal coliform shall not exceed 1000 cts/100 ml monthly average limit and a 2000 cts/100 ml weekly average permit limit. Other stations have been identified for continuous monitoring and regulations for the WPCS to obtain the data on plant bypass, influent monitoring, sludge, upstream and downstream monitoring, and instream monitoring.

The 2010 NPDES permit states that all sanitary sewer overflows (SSOs) are prohibited. Any overflow, spill, release, or diversion of wastewater that enters waters of the state from the sanitary sewer system is considered an SSO and has to be monitored during discharge. These occurrences (listed on a given day basis) will be totaled daily and listed in the Monthly Operating Report. The 2010 NPDES permit now contains reporting requirements that are consistent with CMOM reporting requirements.

At the WPCS, nine required monitoring stations that were listed in the 1994 NPDES permit have been eliminated in the 2010 permit. These stations monitored the process and sludge stream at the WPCS and the instream water quality.

In addition, the 2010 NPDES permit includes local industrial user limitations, which requires monitoring to evaluate the adequacy of the limitations and provide technical justification for the following elements:

- Arsenic
- Cadmium
- Total Chromium
- Dissolved haxavalent chromium
- Copper
- Cyanide
- Lead
- Molybdenum

- Nickel
- Selenium
- Silver
- Zinc

The 2010 NPDES permit requires a yearly report to the OEPA Northeast District office that describes the overflows and bypasses that happened within the year for each tributary community. To help keep pollutants at a minimum with CSOs, the NPDES permit requires implementation of the "Nine Minimum Controls."

1.5.2 Combined Sewer Overflow Policy

The CSO Policy was created on April 19, 1994 to help meet the CWA pollution control goals. Major goals of the policy are:

- CSOs discharge only as a result from wet-weather events, eliminate all dry-weather CSOs
- Have CSOs meet all CWA technology-based and water quality-based requirements
- Ensure CSOs do not pose a threat to lower water quality, aquatic biota, and human health

To achieve the above goals, the policy establishes the following four principles to ensure that CSO Controls are cost-effective and meet local environmental objectives:

1. Provide clear levels of control that would feasibly meet appropriate health and environmental objectives.
2. Provide sufficient flexibility to municipalities, especially the financially disadvantaged, to consider the site-specific nature of CSOs and to determine the most cost-effective means of reducing pollutants and meeting CWA objectives and requirements.
3. Allow a phased approach to implementation of CSO controls considering a community's financial capability.
4. Review and revise, as appropriate, the water quality standards and their implementation procedures when developing CSO control plans that reflect the site-specific wet weather impacts of CSOs.

These policies apply to all Combined Sewer Systems that contain overflows, in which all point sources must be covered by an NPDES permit. There are two basic phases that have to be completed under the Policy. The first phase pertains to satisfying the Nine Minimum Controls, while the second phase pertains to developing a Long Term Control Plan.

Phase I – Nine Minimum Controls

To complete Phase I, the following has to be accomplished:

- Develop and take action of regular maintenance programs and proper operation of the CSOs and sewer system
- Maximize the use of the collection system for storage
- Minimize CSO impacts by the modification and review of pretreatment programs
- Maximize flow from the collection system to the POTW for treatment
- Prohibit dry-weather CSO discharge
- Control floatable and solid materials within CSOs
- Discover ways to prevent pollution from CSOs through programs
- Notify the public of CSO occurrences and impacts
- CSO monitoring to characterize CSO impacts along with the efficiency of CSO controls

The City of Akron completed the first phase by submitting the Nine Minimum Controls to the OEPA in October 1996 and is discussed in Section 1.6.3. This Final LTCP Update Report completes the second phase by creating a LTCP.

Phase II – Long Term Control Plan

The LTCP should include the following:

- Proper monitoring and modeling of the collection system to develop common CSS characteristics
- Public participation
- Identify and address water quality at sensitive areas from CSOs
- Evaluate control alternatives

- Develop cost/performance considerations
- Create operational plan
- Maximize the treatment at the POTW
- Develop implementation schedule
- Create compliance monitoring program for post-construction

1.5.3 Consent Decree

On March 20, 2009 the United States filed a complaint against the City of Akron for alleged violations of Sections 309(b) and (d), and 301(a) of the CWA and the City's NPDES permit. The City has worked with the State of Ohio and the USEPA since that time to negotiate terms and conditions of a Consent Decree to address the allegations within the complaint. The resulting Consent Decree was lodged by the Court in November 2009. The Consent Decree identifies plans, reports, construction and remedial maintenance activities over a period of nineteen years.

The following major components make up the Consent Decree requirements:

- Specific Action Projects:
    - Upgrade WPCS to 130 MGD
    - Separation projects for Racks 8, 25, 21, 30 and 13
- CSO and WPCS Control Measures:
    - Final Long Term Control Plan Update and Report
    - Implementation of CSO and WPCS Control Measures established in the LTCP Update
    - Development and Implementation of Post-Construction Monitoring Program
    - Achievement of Performance Criteria for the CSO and WPCS Control Measures established in the LTCP Update
    - Achievement of Compliance with the NPDES Permit

- Supplemental Compliance Plan if CSO and WPCS Control Measures are not implemented, and/or Performance Criteria for the CSO and WPCS or compliance with the NPDES Permit are not achieved before the Consent Decree terminates

- Public Participation Plan to gather public input and consider public comments in development of the Final LTCP Update

- CMOM and Emergency Response Programs to maximize sewer system performance and eliminate SSOs and combined sewer system releases

- Mud Run Pump Station Program to eliminate overflows from the pump station

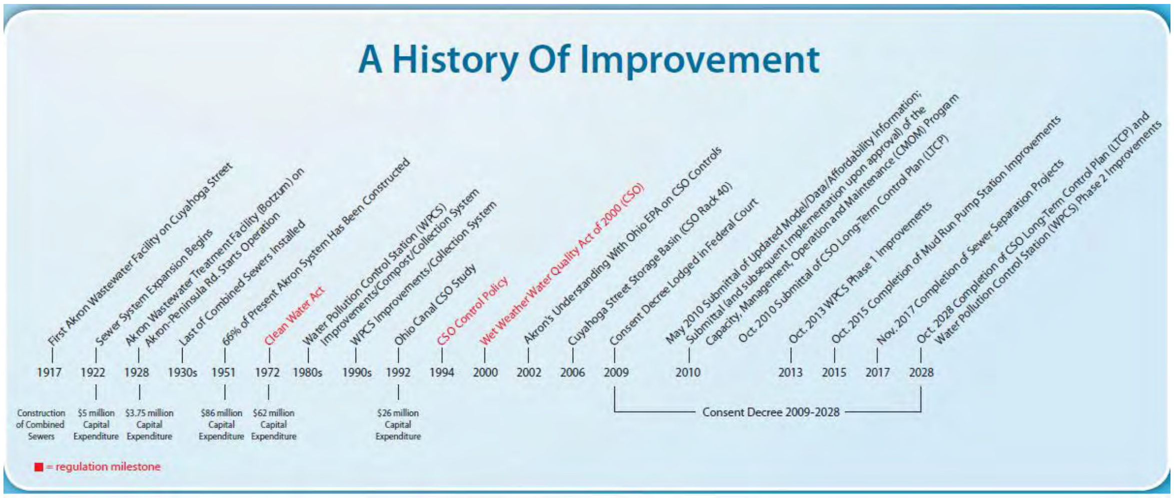
Final LTCP Update Report

This Final LTCP Update Report combines previous documents relating to the LTCP and CSO assessments to create a single, current document. This comprehensive Final LTCP Update Report was developed to incorporate previous work with recent work, such as the updated June 8, 2009 No Feasible Alternative Analysis Addendum and CSO Control assessments as well as a Financial Capability Assessment and cost/benefit analysis. A written explanation for the cost, benefits, accuracy, and methodology of alternatives to eliminate or reduce CSOs is identified herein.

1.6 History of City CSO Compliance

The City of Akron has made vast improvements since 1980 to help improve their sewer system and CSOs. The first steps involved characterization of the sewer system through documentation, monitoring, and sampling, which lead to the creation of a sewer system hydraulic model. Once completed, CSO studies, involving modeling, were conducted and identified various alternatives to decreasing CSO overflows through sewer separation, tunneling, and basin storage. During this time, the City started documenting certain procedures they will follow to help lower pollutants, such as writing their Nine Minimum Controls plan and developing LTCPs. These plans incorporated alternatives to maximize the WPCS capabilities, lower use of the secondary bypass, as well as focusing on lowering CSO pollutants. The main documents addressing CSO compliance are the 1994-1999 CSO System Wide Study Phase I & II, 1996 Nine Minimum Controls, 1980 and 1998 Facilities Plans, 1998 Facilities Plan Alternatives, 1998 LTCP, 2002 Updated LTCP, 2006 NFA, and the 2006 Ohio Canal CSO

Alternatives Advanced Planning Study. The following timeline, Figure 1-10, presents a history of improvements in regards to CSO projects.



Source: A River Renewed: The City of Akron Sewer System Renovations and How They Will Transform the Cuyahoga River (2010)

Figure 1-10 Timeline of CSO Projects

1.6.1 Facilities Plan (1980 & 1998-1999)

The 1980 Facilities Plan was created due to the requirements set forth within the 1972 Federal Water Pollution Control Act Amendments (FWPCA) and the 1977 Clean Water Act. The Facilities Plan provided a description of the Akron WPCS service area and contained a sewer system evaluation and infiltration and inflow studies. The plan also identified CSOs within the system and recommended storage basins to reduce or eliminate CSO overflows. This plan set the basis for the characterization of the Akron CSO system.

The 1998-1999 Facilities Plan is an updated version of the 1980 Facilities Plan. The intent of this updated plan was to serve as a basis for future projects that involved interaction with the wastewater facilities. These actions could include expanding, upgrading, retrofitting, or adding new facilities. The updated information in the 1998 plan included detailed descriptions of the planning area, land use and demographics, environmental conditions (climate, topography, soils, geology, etc), water quality, composting facility, sensitive areas, existing WWTP systems, and the existing collection system.

In addition to providing updated information of the 1980 Facilities Plan, the 1998 plan devised effluent and water quality goals that took into consideration social and environmental concerns as well as cost. To accomplish these goals, the sewer system was characterized, existing water related problems were determined through sampling and modeling, a range of alternatives in the Akron sewer system were assessed, and the most feasible alternatives were recommended to improve the system and WPCS. These alternatives are reviewed in Section 6, Evaluation of Alternatives, of this Final LTCP Update Report.

1.6.2 Long-Term Control Plan '98 (April 7, 2000, Updated May 2002)

The LTCP was created due to the Director's Final Findings and Orders (DFFOs) to provide a CSO long term plan for the OEPA Permit No. 3PF00000*FD. The LTCP is specific to CSOs within the Akron sewer system to develop control plans as alternatives that reduce pollutants into CSO receiving waters, while meeting the requirements of the USEPA CSO Control Policy. To achieve this goal, alternative control measures were evaluated through monitoring, modeling, and analysis of the sewer system and WPCS. Five CSO LTCP alternatives were developed. The alternatives evaluated ranged from combining CSOs to storage basins, creating tunnels, and separating the combined sewers. Alternative #2 was selected as the best alternative, which consisted of the following major proposed actions:

- Sewer separation in seven CSO areas: Racks 8, 9, 13, 21, 25, 30, and 39
- Construction of two (Ohio Canal Interceptor and Northside Interceptor) tunnels to control overflows for the following Racks: 4, 16, 17, 18, 19, 20, 23, 24, 32, 33, 34, 35, and 37
- Six storage basins to control CSO for the following Racks: 5, 7, 14, 15, 22, 31, 36, and 40
- Five treatment basins to address CSO from the following Racks: 3, 10, 11, 12, 26, 27, 28, and 29

Additional evaluations of Alternative #2 were made, along with revisions of the original document from 1998-2002. In July 2000, a letter was sent to the OEPA regarding flow capture calculations, how projects were prioritized, and confirming Akron's financial commitment for the implementation of the LTCP. The letter presented a detailed description, involving defining equations and describing calculations, that showed how

94% of the combined sewage collected in the combined sewer system during precipitation events was captured for treatment on a system-wide annual average basis.

The City further explained the logic behind prioritizing the Alternative #2 schedule. All projects for the first eleven years took into consideration environmental, technical, engineering factors. The City explained that before tunnels are constructed, secondary bypass at the WPCS has to be reduced to lower volume and CBOD loadings into the Cuyahoga River. Reducing the secondary bypass will also help maximize the flow to the WPCS.

The letter included a section on how the City has a financial commitment to the LTCP, and proposed that the projects should be implemented as part of several successive five-year NPDES permits. The City stated that it will continually evaluate funding options and reassess projects to consider new technology or alternatives that meet water quality standards that are cost-effective. Lastly, the City stated that it has already spent millions of dollars addressing CSOs, and that continued implementation of CSO controls depends on cooperation between the City and OEPA.

In September 2000, OEPA was notified that three modifications were made within the April 7, 2000 LTCP. The first modification classified the percent capture calculations described above, but did not make any quantitative change in the result. The new detailed description was added from 4-15 to 4-21, replacing pages 4-15 and 4-16. The second modification pertained to adding a detailed bar chart, Figure 5-3 of the original LTCP, which described the design, initiation of construction, and completion of construction for each project within the program schedule. The last major change described revisions, pages 5-7 and 5-8 of the original LTCP, to the City's financial commitment to the projects within the program schedule.

The City sent another letter to the OEPA stating it will conduct additional evaluations requested by the OEPA in December 2001. The three specific evaluations OEPA requested were:

- A further evaluation of express sewers for the major separate sewer areas upstream of combined sewer areas. This pertains to CSO Rack 18, Northside Sewer areas, and CSO Racks 11 and 12.

- Evaluation of additional treatment at the proposed CSO facilities for the Ohio Canal Tunnel, CSO Rack 40, Northside Interceptor Tunnel and WPCS Secondary Bypass

- Evaluation of the proposed schedule. The schedule length will be based on the staging requirements of various projects, constructability, water quality improvements and the City of Akron's financial capabilities as related to sewer user rates.

The City stated it would first submit the first two items above to the OEPA, and would then satisfy the third within 30 days upon receipt of OEPA comments from the first two items. In addition to further evaluations, the City gave updates on projects relating to the LTCP. This included sewer separation at Rack 9 and 39, 2002 capital improvements budget, evaluation of sewer river crossings, flow monitoring advancements with a rain gauge network and hydraulic/water model, and grants of $1,000,000 for CSO improvements and $485,000 for improving the Cuyahoga Valley National Park.

In May 2002, the City proposed to update the LTCP to include the three bullets listed above. This information was included in the LTCP (Section 5.4) and has been the most recent update to the document.

1.6.3 Nine Minimum Controls (1996)

In 1994, the OEPA required the City of Akron to develop procedures to satisfy the Nine Minimum Controls (NMC) in accordance with the City's NPDES permit. The purpose of this report is for the City to have written documentation of how the NMCs will be implemented and managed in the Akron sewer system. The current procedures have been documented, along with describing additional procedures that could be enforced to comply with the NMCs.

1.6.4 No Feasible Alternative (2006, Updated 2009)

This document was developed as a result of the City's No Feasible Alternative (NFA) analysis required by the CSO Control Policy. The project followed the procedures set forth by the CSO Control Policy and provided data that demonstrated there is no feasible alternative to the limited use of the secondary bypass. More information is located in Section 5 of this Final LTCP Update Report.

1.6.5 Ohio Canal CSO Alternatives Advanced Planning Study (2006)

The 1998 LTCP for the City of Akron recommended the addition of tunnels to the sewer system to decrease CSO overflows. The Ohio Canal was one location to have a tunnel constructed since it receives some of the largest CSO volumes. The racks that contribute to these areas CSO volumes are: Racks 4, 16, 17, 18, 19, 20, 21, 23, 24, and 37. The purpose of this study was to develop alternatives that reroute the flow from these racks and convey flow northward to a location on the Cuyahoga River. The flow would then be stored and slowly released into the Ohio Canal Interceptor, or treated and released directly into the Little Cuyahoga River.

The study developed and analyzed eleven alternatives, and alternative 6A was recommended. This alternative uses the Ohio Canal Enclosure as a storage basin and contains the smallest tunneling length and diameter, making it the lowest overall project alternative cost. To obtain the required 15 MG storage for this system, the CSO flows can be stored in a proposed Ohio Canal Enclosure Extension Tunnel (2.8 MG), the Ohio Canal Enclosure (4.4 MG), and a proposed downstream storage tank (7.8 MG). This alternative would also allow for treatment of the water through technologies such as clarification, high-rate treatment and/or disinfection, or advanced primary treatment.

1.6.6 CSO System Wide Study Phase I & II (1994-1999)

Dry and wet weather sampling and flow monitoring of the streams, overflows, and sewers helped develop understanding of the biological and chemical impacts of the CSOs; as well as increasing the model of the CSS to include sanitary interceptors and a receiving water model. This model, and sampling, helped with the evaluation of the combined and separate sewer systems. The sampling alone helped with the documentation of the use attainability of the physical nature of the receiving streams. Biological data was also collected through the sampling of receiving waters within the planning areas.

1.6.7 Supplemental CSO Compliance

The City has conducted additional studies and reports related to CSO compliance other than what is described in Sections 1.6.1 – 1.6.6 above. Three additional CSO compliance activities are the LTCP Review and Disinfection Investigations Report, Main Outfall Sewer Study, and Combined Sewer Overflow Rack Improvements. A list of all

CSO/SSO related projects since 1993 is listed below in the CSO/SSO Related Expenditures subsection.

LTCP Review and Disinfection Investigations Report (2005)

The 1998 LTCP recommended implementing Alternative #2 for the City of Akron, which involves the addition of 11 detention basins. The City considered adding disinfection at the storage basins for the peak flow, where this study investigated the disinfectant CSO alternatives. The study revealed that sodium hypochlorite, chlorine dioxide, bromine and UV are the best alternatives for disinfection of the storage basins. High-rate disinfection also proved to be the best process, with sodium hypochlorite being used in the high-rate disinfection followed by dechlorination as the most cost-effective method. The report also recommended evaluating the LTCP every 5 years, providing screening at the storage facilities to remove floatables, and expanding the tunnels for additional storage.

Main Outfall Sewer Study (1995-1999)

The purpose of this project was to determine the structural integrity of the primary sewer entering the Akron WPCS. Factors that contributed to the structural integrity of this sewer included investigations involving:

- Infiltration and Inflow
- Internal conditions of the sewer
- External conditions of the sewer
- Structural condition
- Flow limitations

Upon investigation, the main sewer was classified as being in good condition. Therefore, it did not need to be reconstructed or rehabilitated.

Combined Sewer Overflow Rack Improvements (1994-1999)

The main purpose of this project was to devise improvements to prevent dry-weather overflow events from occurring. This involved suggestions to change the design of CSO manholes and racks to prevent the dry weather discharge. This project helped the City identify maintenance issues within the CSO manholes and racks, along with devising ways to help decrease floatables within the CSOs.

CSO/SSO Related Expenditures

Tables 1-6 and 1-7 illustrate the CSO/SSO related projects the City has performed since 1993.

Table 1-6 1993-1996 CSO/SSO Related Projects

CSO/SSO Related Projects	Total Cost
ROOSEVELT TRUNK OVERFLOW STUDY	$7,484
OHIO CANAL OVERFLOW STUDY	$628,688
RACK METERING	$5,172
CUY. & L.CUY.--COMBINED SEWER OVERFLOW EVALUATIONS	$934,683
OHIO CANAL AND RACK #16 STUDY	$26,419
SEWER MONITORING SYSTEM	$2,626,517
AUTOMATED RAIN GAUGES	$13,685
LITTLE CUYAHOGA TRUNK INSPECTION	$64,233
WPCS STRM RETENT BASIN IMPROVE	$3,150,631
WPCS NEW CSO MONITOR STATION	$303,230
EMERGENCY SEWER REPAIR	$424,118
CSO - DATA COLLECTION/EVALUATIONS	$3,312,389
INFLOW/INFILTRATION CORR STUDY	$82,987
PATTERSON AVE 72" COMBO SEWER	$36,350
GOODYEAR RETENTION TANKS/RACK 39	$20,215
FACILITIES PLAN UPDATE	$25,342
UNDERGRND SEWER RETENTION	$15,236
HAWKINS DISTRICT RELIEF SEWER	$7,209,008
WILLOW RUN RELIEF SEWER	$7,225,199
OUTFALL SEWER EMERGENCY REPAIR	$49,728
Total	**$26,161,313**

Table 1-7 1997-2010 CSO/SSO Related Projects

CSO/SSO Related Projects	Total Costs
Combined Sewers	$114,629
CSO Rack 40 & 31	$21,233,315
Patterson Ballfields Storage Bldg.	$103,673
CSO Rack 25 Sewer Separation	$184,384
LTCP	$1,934,269
Study CSO Lock 3	$335,531
Akron WPCS Draft Permit Review	$11,899
WPCS Improvements	$76,381
CSO Rack 8 Separation	$32,007
Consent Decree Payments	$300,000
Patterson Avenue 72" Combo Sewer	$2,961,823
Inflow/Infiltration Correct Study	$203,589
Goodyear Retention Tank/Rack39	$302,013
Sewer Emergency Repair	$3,619,540
Mud Brook Siphon	$919
Sewer Flow Monitoring System	$24,070
CSO Rack 39 Elimination	$531,181
Manhole Over/Under Access Rehab	$33,792
Howard Street Sewer	$304,628
CSO Rack 9 Sewer Separation	$406,943
CSO - Data Collection/Evaluations	$1,256,845
Facilities Plan	$4,534,165
Ohio Canal & Rack #16 Study	$9,059
Sewer System Monitoring	$541,577
Automated Rain Gauges/ADS Service	$737,544
Willow Run/Lakeshore Blvd Ph3	$3,967,080
Mud Run	$631,706
CSO Rack 13 Outfall Emergency	$156,853
Total	$44,549,417