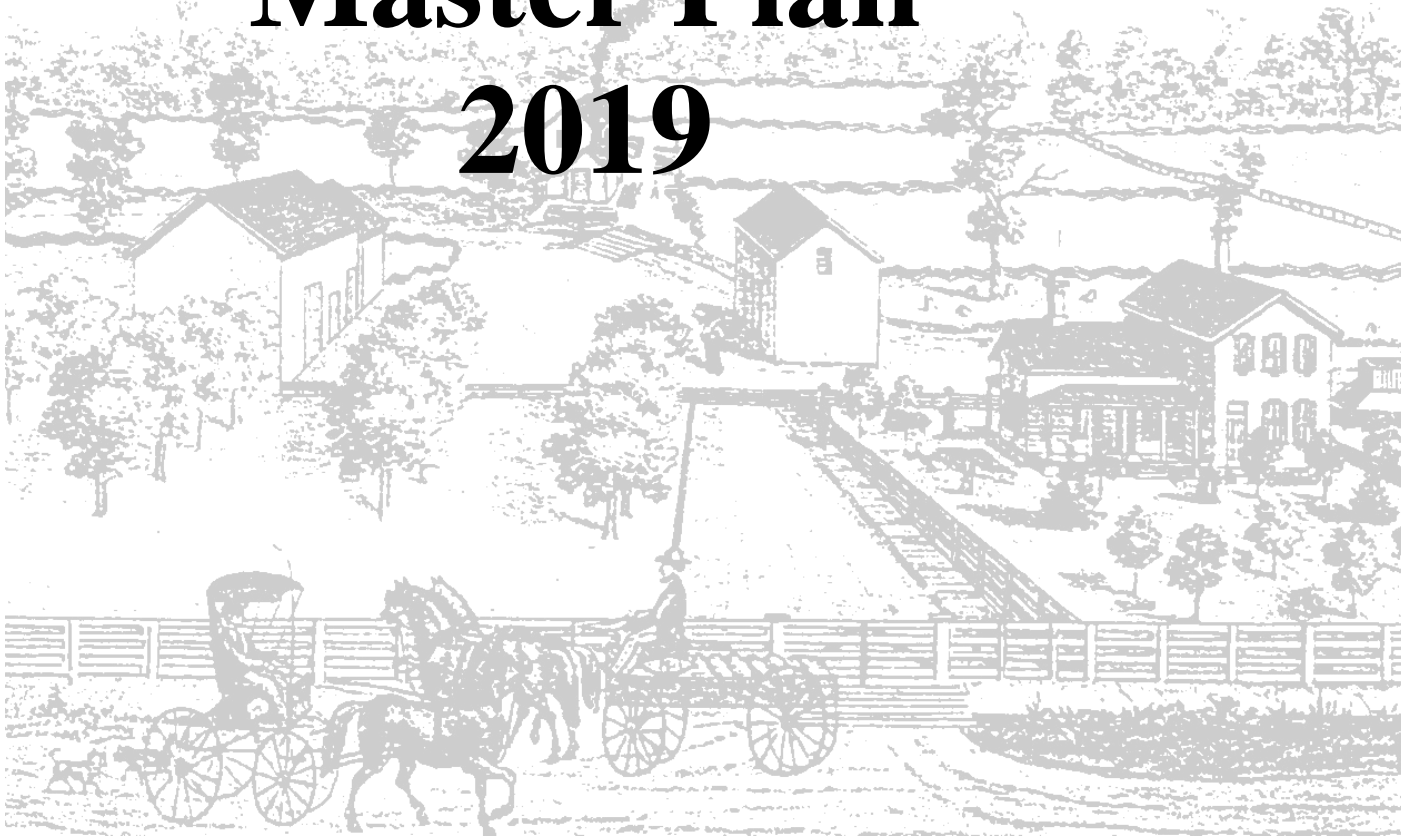


Whiteford Township
Master Plan
2019



Whiteford Township
2019 Master Plan

TOWNSHIP BOARD OF TRUSTEES

Supervisor.....Walter Ruhl
Clerk.....Angela Christensen
Treasurer.....Timothy D. Hill
Trustee.....Donald Sahloff
Trustee.....Bernice Heidelberg

TOWNSHIP PLANNING COMMISSION

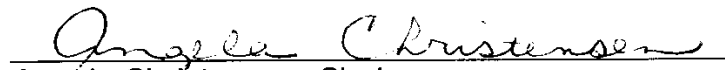
Chairman.....Kipp VanTassel
Board Rep.....Donald Sahloff
ZBA Rep.....Christine Bischoff
Board Member.....Darrell Rush
Board Member.....Bruce Ahleman
Alternate Board Member.....Lawson Stone

Prepared with the assistance of
Alexander S. Drescher, Township Attorney

I hereby certify that the Whiteford Township 2019 Master Plan was approved at a regular meeting of the Whiteford Township Planning Commission on October 8, 2019.


Kipp VanTassel, Chairman
Whiteford Township Planning Commission

I hereby certify that the Whiteford Township 2019 Master Plan was approved at a regular meeting of the Whiteford Township Board on October 15, 2019.


Angela Christensen, Clerk
Whiteford Township

RESOLUTION OF ADOPTION
WHITEFORD TOWNSHIP 2019 MASTER PLAN

WHEREAS, the Michigan Planning Enabling Act, Public Act 33 of 2008 as amended, authorizes and empowers Townships to make, adopt, amend, extend, add to, or carry out a master plan; and

WHEREAS, according to this Act, a master plan shall guide and accomplish development that is coordinated, adjusted, harmonious, efficient, and economical; shall consider the character of the planning jurisdiction and its suitability for particular uses, judged in terms of such factors as trends in land and population development; and will, in accordance with present and future needs, best promote public health, safety, morals, order, convenience, prosperity, and general welfare; and

WHEREAS, according to this Act, a master plan shall address land use and infrastructure issues and may project 20 years or more into the future and a master plan shall include maps, plats, charts, and descriptive, explanatory, and other related matter and shall show the planning commission's recommendations for the physical development of the planning jurisdiction; and

WHEREAS, the Whiteford Township Planning Commission has made careful and comprehensive surveys and studies of present conditions and future growth within the Township with due regard to its relation to neighboring jurisdictions; has consulted with representatives of adjacent local units of government in respect to their planning so that conflicts in master plans and zoning may be avoided; has cooperated with all departments of the state and federal governments and other public agencies concerned with programs for economic, social, and physical development within the Township; and has sought the maximum coordination of the Township's programs with these agencies; and

WHEREAS, the Whiteford Township Planning Commission has updated the Master Plan for the Township which had last been approved in 2010; and

WHEREAS, the Whiteford Township 2019 Master Plan addresses land use and infrastructure issues and projects 20 years into the future and includes maps, plats, charts, and descriptive, explanatory, and other related matter and shows the Planning Commission's recommendations for the physical development of the Township; and

WHEREAS, the Whiteford Township 2019 Master Plan contains recommendations for economic development, agricultural preservation, parks and open space, community facilities and services, transportation and infrastructure development; and

WHEREAS, the Whiteford Township Planning Commission has sought public input into the planning process and has complied with the requirements for public notification, distribution of draft plans, and plan adoption; and

WHEREAS, the Whiteford Township Planning Commission held an advertised public hearing on the plan on October 8, 2019 to formally receive community input.

NOW THEREFORE BE IT RESOLVED that the Whiteford Township Planning Commission adopts the Whiteford Township 2019 Master Plan together with the future land use map and all other maps and descriptive matter contained within, in accordance with Section 43 of Public Act 33 of 2008 as amended.


Kipp VanFassel, Chairman
Whiteford Township Planning Commission

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Whiteford Township Michigan, Whiteford one room schoolhouse, Whiteford Center & W. Temperance Rds.

INTRODUCTION

The Whiteford Township Master Plan was updated by the Whiteford Township Planning Commission with assistance of Alexander S. Drescher, Attorney, and David Arthur Consultants, Engineering firm for the township. The Master Plan is a forward-looking document considering where a cross section of the community believes we as a township should be headed for the next few years.

An understanding of the physical and social resources present within the community is an integral part of the planning process. This section will provide a general description of various characteristics of Whiteford Township in order to better understand the problems and potentials that are present as they pertain to the planning process.

Whiteford Township is situated in the southwest corner of Monroe County, bordering on the cities of Sylvania and Toledo, Ohio. While affected by the Toledo Urban Area and the US23 corridor linking Toledo to Ann Arbor, Detroit and the remainder of Michigan, Whiteford Township has retained a primarily rural-suburban character. Other Michigan communities surrounding Whiteford Township are also of a rural, agrarian nature, with the exception of Bedford Township to the east. As of the 2000 Census, Bedford is Monroe County's largest municipality and is a suburb of Toledo, Ohio.

The Plan is divided into five sections:

Brief Historical Description (how we got here from both social and physical standpoints)

How did Whiteford Township get to this point?

A Short History of the Township – Physical, Transportation, Cultural, Religious and Education

Goals and Objectives

The Goals and Objectives section establishes what the Planning Commission believes will benefit the people of Whiteford Township the most with the fewest restrictions. We will be looking at what the leaders of the township should be trying to achieve in the next 5 to 7 years. Also, the Planning Commission has taken into consideration how the people would like the land to be used in the future.

Land Use

The Land Use Programs section is an in-depth evaluation for each of the basic land uses: Agricultural, Residential, Commercial, Industrial and Recreational. It addresses utility, transportation and recreational needs in the future considering suggestions from the Southeast Michigan Council of Governments (SEMCOG) and the Toledo Metropolitan Area Council of Governments (TMACOG). Each land use or need is described in terms of existing conditions, opportunities, policies and processes used to develop the future land use map. The four primary land use classifications (A-D) are divided into thirteen distinct types (1-13) as follows:

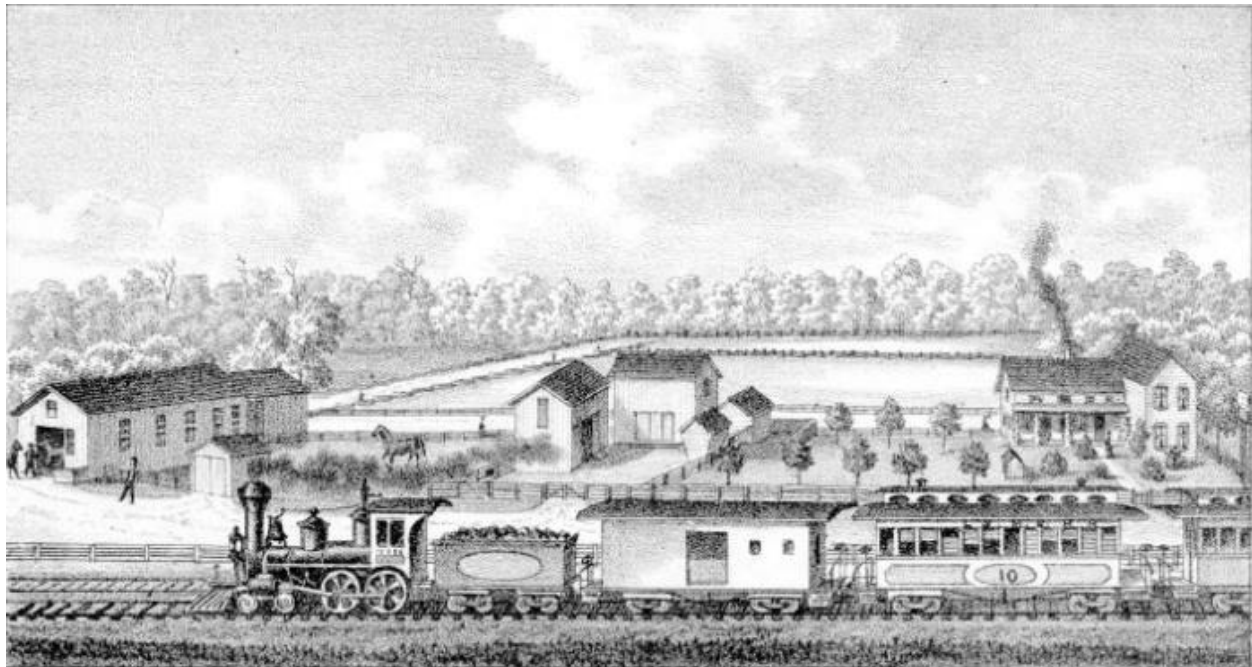
- A. Agriculture
 - a. Agriculture
- B. Residential
 - a. Rural Residential
 - b. Low Density Residential
 - c. Medium Density Residential
 - d. High Density Residential
 - e. Multiple-Family Residential
 - f. Planned Unit Development
 - g. Traditional Neighborhood Development

- C. Commercial
 - a. Local Business
 - b. Highway Business
- D. Industrial
 - a. Limited Industrial
 - b. General Industrial
 - c. Extractive

Master Plan and Maps

The Master Plan and Map Section describes the future land use proposal in both text and graphic format.

Community Profile



RES. & BLACKSMITH SHOP OF ANTHONY BORDEAUX
SEC. 29, WHITEFORD TWP. MONROE CO. MICH.

from the Atlas of Monroe County, F. W. Beers & Company, New York - 1876

HISTORY AND EVOLUTION OF WHITEFORD

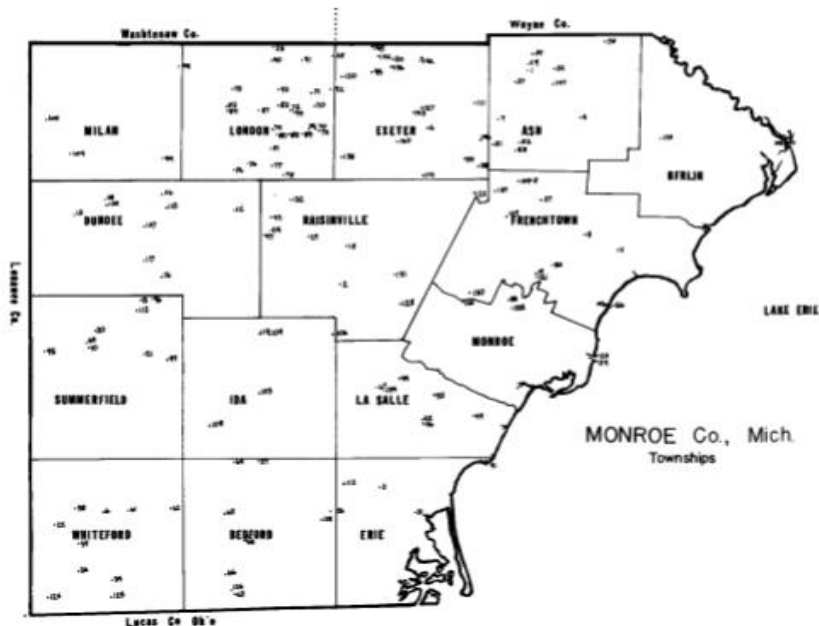
Physical

Due to its close proximity to the two important settlements of Detroit and Toledo in the latter eighteenth century, Whiteford Township is situated in one of the more historic sections of the Midwest. In the Township's early days, it was the home of Ottawa, Pottawattamie, Chippewa, Delaware and Wyandot indigenous groups, the *coureur des bois* (rover of the woods) – the early fur trappers and traders, and the French and British governments. There were ancient forests of beech, black walnut, cottonwood, elm and ash, and numerous fur bearing animals and water fowl such as bear, deer, elk, wolves, fox, beavers, ducks, geese, turkeys, grouse and quail. It is also associated with the infamous "Toledo War", which focused on the present boundary between Michigan and Ohio.

Prior to European colonization efforts in the Great Lakes region around the seventeenth century, the area was home to numerous indigenous groups. Some of these are already noted above. Approximately 150 archaeological sites have been documented throughout Monroe County. These sites contained fragments of stone, ceramic, human and animal remains, and suggest that the Monroe County area was inhabited in various settlement classifications as early as the seventh century A.D., the early Woodland Period.

Archeological sites, Monroe County, MI

Source: Michigan Archeologist V. 19 no. 1 & 2



Evolution of Whiteford Township & Monroe County, Michigan 1827-2009

Source: J. M. Bulkley, History of Monroe County, Lewis Publishing Company, New York - 1913 Volume I



1827



1834



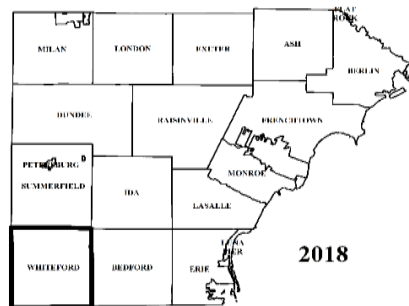
1837



1867



2009



2018

In 1785, the Michigan territory established a pattern for the survey and sale of public lands. Whenever natural boundaries made it possible, the counties were divided into townships which were six by six miles square; the townships were then divided into 36 sections containing one square mile; and these sections contained 640 acres, which could be divided into four equal quarter sections of one hundred sixty acres. They could be broken down into even smaller plots. Monroe County was separated from Wayne County in 1817. At that time, Wayne County was in almost all of the Michigan Territory.

The grid pattern thus established was numbered with town numbers running north to south and range numbers running from west to east. Each township was given a town number and range number. Today, Whiteford Township is described as being Town 8 South and Range 6 East with a very small area along the south edge of the township being described as Town 9, Range 6 East. This is due to the fact that Whiteford Township is about six by six and one-half miles long (six miles wide) as a result of the mix-up over the Michigan-Ohio state line in 1837. Summerfield, Whiteford Township's neighbor to the north, is described as Town 7, Range 6 and Bedford, Whiteford Township's neighbor to the east, is Town 8 South and Range 7 east.

In 1827, Monroe County consisted of four townships: Frenchtown, Raisinsville, Monroe, and Erie.

On March 4, 1831, LaSalle Township was separated from Erie Township. On March 7, 1834, Whiteford Township was organized. On April 12, 1837, Bedford, LaSalle Township, and Port Lawrence Township were organized and the one-half mile known as Whiteford Township's Town 9 Range 6 east was established. Port Lawrence became part of Ohio with the settlement of the Michigan-Ohio War.

By 1867, Monroe County was established as it is today with sixteen townships.

One of the earliest inhabitants, and most noteworthy, is its founding father, General David White, after whom the township was named. Although unconfirmed, it is thought that he originally migrated from Massachusetts and fought in the War of 1812, where he received the title "General". General White was the first of approximately 35 individuals to serve as supervisor of Whiteford Township.

In 1831 David White came to this area and established himself as a leader and major land owner. David White is credited with laying out Sylvania. David White's plan for the village of Whiteford east of the Ten Mile Creek is now part of Sylvania.

Whiteford Township has always been business minded. In the early days, there were many stores located around the township. Today we have some larger businesses located along Memorial Highway and at the three exits along the US 23 Expressway. We also have an industrial park along Schnipke Drive. With the changes in agriculture practices, we have quite a few lawn care and landscaping businesses. For the last forty years, farming has been changing. Small farms have been purchased by big farmers and the number of families involved in farming has decreased significantly since the 1980s. Today we have a similar number of acres under cultivation, but every year we have fewer people and families involved in the practice of farming.

Transportation

Transportation and drainage have moved hand in hand. When General White migrated from Massachusetts to fight in the War of 1812, he found Whiteford Township was wild and part of the Great Black Swamp. Most of the movement in the area was done by using established streams in canoes. There were some established Indian trails that could be used for walking or pack animals. Some of the early trails were Summerfield Road, Memorial Highway and Head-O-lake Road. Memorial Highway was originally the Cottonwood Swamp Road. These roads connected Ottawa Lake and Blissfield.

Around the turn of the century (1800), railroads caught the imagination of Americans. In 1833, the Erie and Kalamazoo Railroad was built and connected Toledo and what was then known as Port Lawrence, and also parts of Michigan to the Kalamazoo River. A remnant of the line is still in use today to serve the Ottawa Lake Co-op and ADM Grain Terminal.

In the early years, a number of unincorporated communities were established, such as Ottawa Lake, Whiteford Center, and St. Anthony. Other less known or remembered places that were no more than a cluster of homes, for example, Gert, have ceased to exist or have become subdivisions, such as Orchard Grove and Ottawa Heights. One unnamed community was at the corner of Hicks and Yankee Road, where a cooper and a blacksmith were located around 1850.

As these communities were established, more roads were needed. To have roads and farms, the swamp had to be drained. The Ottawa Lake Drain was one of the first and now drains about two thirds of the township. Once the ditches were established and farm ground made tillable, roads started to improve.

Some temporary train tracks were laid to bring stone to roads like Sylvania-Petersburg Road. Once the roads were established, the tracks were taken out.

In the late 1940s, many of our roads were unpassable in the spring of the year. In the 1960s, Whiteford Township voters approved a one mill tax levy to improve the roads. Today all the roads in the township that we have control over are paved. The exception is a short section of County Line Road.

Many of the ditches have been cleaned in the past three years. This improves the drainage and the quality of life in the township.

Culture

What we have seen on a cultural level is that families came from the east coast and settled here and then sent for their extended families. A lot of the original families came from New York and Pennsylvania. They helped each other and started farming. After the war of 1812, there were French, English, German, Irish, Belgium and, later, Polish immigrants. They settled in the area and started small communities such as Ottawa Lake and Gert, They opened stores on trails between towns, offering places to stay and buy supplies. St. Anthony's is a perfect example. Over time there were many stores in and around the settlements. They built churches and tended to group by religions. One town may be mainly Catholic and another was mainly Lutheran which resulted in having two churches within 100 yards of the other. The majority of the people were farmers and

eked out a living with the help of their children. As we progressed into the 20th Century and machines started taking over the labor-intensive practice of farming, people started looking for work in town to make ends meet. This process continues today. We have fewer and fewer farmers working more and more land each year. This is the change that some people wish wouldn't have happened but this is how society has progressed. The trend is for fewer families to be involved in the production of food and the growth of mega farms. The children have gone where the work takes them and have left the farm behind. As our elder farmers die off, the homesteads get split off and farm land is sold or split into smaller parcels. This changes the landscape and often the values of the community in general.

Religion

The first record of a Methodist circuit rider was in 1803. He offered spiritual guidance to the settlers. The first church in the township was Whiteford Wesleyan Church, which was founded in 1846, and is still located at US 223 and Sylvania-Petersburg Road. The next place of worship was Zion Lutheran Church, which was founded in 1861, and is currently located in Ottawa Lake after burning down twice at its prior location at Ottawa Lake Road. The steps of the original church can still be seen just out of town. The next place of worship was St. Michael Lutheran Church, which was built in 1867, and is located at Whiteford Center Road and Temperance Road. In 1907, St. Anthony Catholic Church was built and it is located on the south side of old M 151 near Summerfield Road. These are the oldest churches in the Township according to the records.

Education

The Whiteford Agricultural School District is grounded in years of tradition, but always looking forward to the future. Our mission exemplifies what we embody as our core beliefs; Engaged in our Learning, Encouraged by our Community, Empowered for our World! As we commit to these core beliefs our future is focused on providing our students a 21st Century Learning Environment where students can work together in collaborative spaces, maintain a high level of excellence in both our Agricultural Science and Arts programs by providing state of the art facilities to support future opportunities, and to honor every learner by personalizing learning to meet their skills and aspirations while maintaining an intimate family environment that Whiteford has come to know. We are very excited about what the future holds for the students, families, and community of Whiteford Agricultural Schools.

Whiteford Township has two preschools, Growing Tree and Crossroads.

Goals and Objectives

The most critical task during the formation of the land use plan is to develop a set of goals and objectives for the community leaders to utilize in guiding future development efforts and for evaluating the appropriateness of land use proposals.

Overall Goal and Vision Statement

Whiteford Township will strive to create opportunities for industry and business, while maintaining a rural atmosphere. We need to maintain the agricultural businesses in the township while allowing enough growth in the right places to support our school and make this township attractive to future generations.

Goals and Objectives:

- A. To encourage a sense of community and family.
 1. We need to continue to work on improving our schools, parks, and walking and biking opportunities with improvements to the park and creating bike paths.
 2. We will continue to improve our museum and strive to find volunteers to help with having the museum open and having activities at the museum.
- B. Strive to make planning a local community effort to direct the Township's future and to protect the health, safety, and welfare of the community.
 1. The township will focus on health and safety in our community. The planners will strive to encourage the expansion of public water and sewer throughout our community.
 2. Provide and encourage the public to participate in and be a part of the planning process.
 3. Continue to monitor and update the five-year Master Plan in accordance with the Michigan Planning Enabling Act.
- C. Strive to preserve agricultural land and our rural character. Also, to recognize the importance of agriculture for a healthy and diverse economy, for the quality of the environment and for the heritage and culture of the community.
 1. With the changes in the business of agriculture, our planners need to encourage fewer splits of our agricultural properties. Larger tracts of land are better for crop production today and in the future.
 2. Maintain those areas of the township best suited for agriculture and enact provisions sufficiently flexible to allow various forms of agriculture businesses.

- D. To Relate Land Uses to Land Capabilities.
1. Encourage development only in those areas where utilities, roads, drainage, soils, natural features, and existing and surrounding land uses are capable of supporting the proposed use without significant impact or conflict.
 2. Maintain effective zoning, land use, site plan and subdivision controls.
- E. The Township Should Strive To Maintain A Community That Has A Pleasing Environment With A Variety Of Housing Types For All Tastes And Incomes.
1. Continue to provide zoning controls to balance residential development with other land uses.
 2. Continue to use zoning controls through site plan reviews to properly protect the health, safety and welfare of the existing community with proposed expansion.
- F. Establish Enterprise Corridors That Are Consistent With The Goals Of The Township, County, SEMCOG And TMACOG.
1. Establish enterprise zones and encourage businesses to develop in these areas. Encourage development of the U.S. 23 and U.S. 223 corridors at the interchanges and especially on Schnipke Drive and Memorial Highway from the state line to Ottawa Lake.
 2. Encourage industrial expansion where it will have the least conflict with surrounding land use.
 3. Plan and supply utilities, along with municipal water and sewer to these areas.
 4. Promote the Township as an especially well-suited location for technology related businesses, in areas where similar industries are presently established.
 5. Continue to plan for municipal water and sewer expansion projects that best cover the largest portions of business and residential areas.
 6. Support the use of railroads and freeways for industrial shipping purposes within the Township.
 7. Promote the Township as an especially well-suited location for “green” industries, technology related businesses, research and development parks, and similar uses that are likely to attract clean industries, high paying jobs, and a stable tax base.
 8. Allow for industrial expansion where it will have the least conflict with surrounding land uses, that maintains environmental integrity and where utilities are available.

9. Maintain effective zoning and land use practices.
 10. Support industrial development adjacent to existing industrial activities.
- G. To use tax dollars efficiently by avoiding the duplication of services, and to put government on a sound financial basis.
1. Investigate grants and matching funding from a variety of sources to finance capital improvements.
 2. Strive for improved coordination between various governments' capital improvement planning.
- H. Sewer and/or water service should be provided to selected areas of Whiteford Township only after careful assessment of the social, environmental, and economic costs and benefits involved in providing these services.
1. Monitor the public health and safety concerns related to on-site sewage disposal and ground water quality.
 2. Explore the availability of federal and state grants to provide public utilities to the Township.
 3. Establish water districts, consistent with the existing districts.
- I. To preserve the natural features of Whiteford Township.
1. Encourage the preservation and restoration of woodlands, wetlands, prairie, and other natural areas.
 2. Encourage the planting of windrows and buffer strips as a means of preventing soil erosion and sedimentation as described in the GAAMP (General Accepted Agricultural and Management Practices)
 3. Maintain the quality of ground and surface water in the Township by promoting soil conservation, sewage treatment, solid waste disposal, and the proper use of agricultural and industrial chemicals.
 4. Identify the unique karst resources in the Township and take efforts to protect these and other areas which are vulnerable to groundwater pollution.

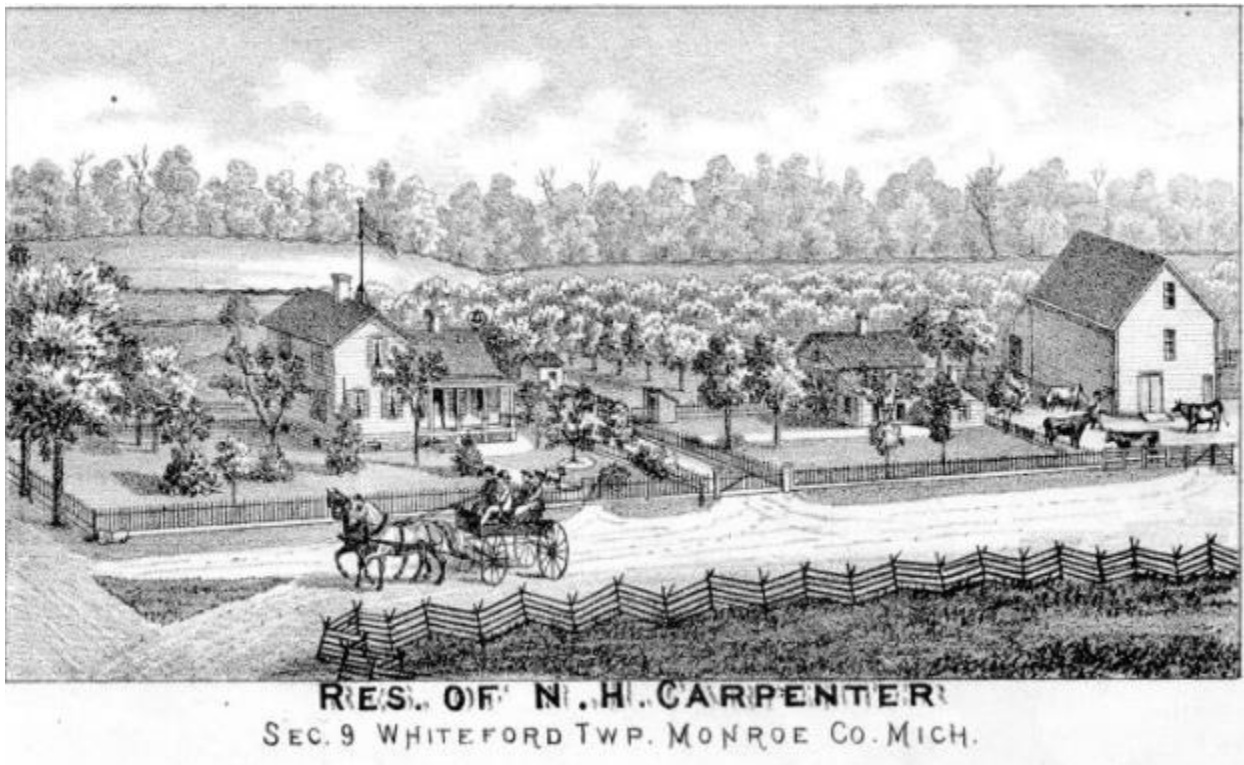
- J. To preserve the historic, cultural and aesthetic features of Whiteford Township.
 - 1. Encourage the preservation of unique and historic buildings, cemeteries, and cultural resources in the Township
 - 2. Rehabilitate our cemeteries where needed.
 - 3. Encourage the preservation and adaptive reuse of historic structures.
 - 4. Encourage efforts which protect the rural atmosphere and scenic quality of Whiteford Township, such as blight control, farmland preservation, and the planting and protection of native vegetation.

- K. Improve the vehicular circulation of Whiteford Township to provide for the smooth and efficient flow of automobiles, trucks, buses, farm equipment and emergency vehicles.
 - 1. Support the development of an overall transportation and maintenance program for the Township, in accordance with state, regional and county agencies, under the auspices of federal transportation funding programs.
 - 2. Document the need for public transportation programs in the Township and promote the expansion of services, especially for seniors and persons with disabilities.

- L. To preserve the natural features of Whiteford Township.
 - 1. Maintain the quality of ground water and surface water in the township by promoting soil conservation, proper sewage treatment, and solid waste disposal.
 - 2. Identify the karst areas in the township and protect these areas which are vulnerable to groundwater contamination.

- M. To preserve the historic, cultural and aesthetic features of Whiteford Township.
 - 1. Encourage the preservation and adaptive reuse of historical structures.
 - 2. Encourage efforts which protect the rural atmosphere and scenic qualities of Whiteford Township, such as blight control, farmland preservation and the planting and protection of native vegetation.

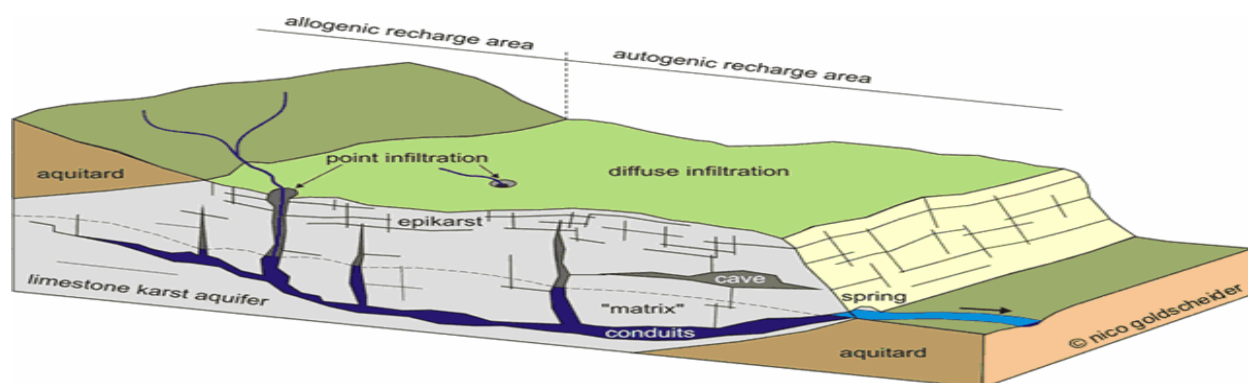
- N. Provide for present and future recreational needs of all citizens of Whiteford Township
1. Promote the preservation and improvements of existing parks.
 2. Support the development of a park and open space in any new residential development.
 3. Continue to develop the facilities at the Whiteford Stone Co Park. Continue to look for donations of time, material and money to improve the park and make it a place people want to come and gather for family activities and sporting events.
 4. Continue to improve the walking trails at the parks and promote the parks as a pleasant place to get exercise.
 5. Improve the park in Ottawa Lake by adding new playground equipment, developing parking and landscaping and following the comprehensive plan.
 6. Explore expanded opportunities for bicycling and walking for exercise and recreation as well as for transportation.



from the Atlas of Monroe County, F. W. Beers & Company, New York - 1876

Karst in Whiteford Township

Figure 1. Geology of Whiteford Township



Karst (and Sinkholes) in Whiteford Township Michigan
2019 Report for the Whiteford Township Master Plan
By Ned Birkey, MSU Extension Educator Emeritus
January 14, 2019

What is karst? Karst is an Eastern European term for sinkhole. The term karst is derived from the province of Karst, Yugoslavia (parts of Slovenia and Croatia) and adjacent portions of Italy bordering on the Adriatic Sea. Karst is defined as a landscape with topological depressions such as swallows, sinkholes or caves caused by underground solution of limestone or dolomite bedrock (carbonate bedrock). A sinkhole is a natural depression in the landscape caused by solution and subsidence of earth material.

Karst in southeast Michigan, including Whiteford Township, is relatively unremarkable and therefore, unnoticed, because of the flat terrain. Florida, Kentucky, Tennessee, Missouri and even Alpena, Michigan have sinkholes that are more prominent due to their unique terrain.

Why the concern about sinkholes? The hollow nature of karst terrain results in a very high pollution potential of water. Streams and surface water (runoff) entering sinkholes or caves bypass the natural filtration through the soil. This "filtration bypass" provides a direct conduit for contaminants to travel some distance without filtration or purification.

Where is karst? About twenty percent of the world has "soft" bedrock that is subject to dissolution, including three areas in Michigan. One of these areas is southeast Michigan and all of Monroe County. Whiteford Township has had more sinkholes documented since 1900 than any other part of the county.

Who has identified sinkholes here? The first person to thoroughly document this geological feature in Monroe County was William H. Sherzer, a Professor at Wayne State University in the Michigan Geological Survey (vol. 7, 1900).

The most thorough research in sinkholes in Whiteford Township was done by William Michno, a graduate student at Eastern Michigan University, who did his thesis on sinkholes in Whiteford

Township in 1972. He identified more than 100 sinkholes varying in depth from 1 to 25 feet deep and 2 to 100+ feet across. Michno says there is a direct relationship between sinkholes, quarries, dry wells and related environmental problems. I understand that a new study is being undertaken by a graduate student at the University of Toledo.

Other studies about karst, sinkholes and other related matters have been done by the U.S. Geological Survey, the U.S. Department of Energy, the U.S. Environmental Protection Agency, the Michigan State University Institute of Water Research and the Michigan Department of Environmental Quality; among others (see map on page 51,

Figure 3).

[Ctrl/Click here for a map of known sinkholes in Whiteford Township](#)

The most prominent example of a sinkhole in Whiteford Township is Ottawa Lake, which was a sinkhole lake for which the village was named. People used the lake for boating, fishing, picnicking and other leisure activities until it was permanently drained in 1917.

Native Americans named Ottawa Lake “The Disappearing Lake” which at times stretched two miles long and a half mile wide. Ed Montgomery, a local well driller before 1900 reported an opening near the foot (south end) of the lake described as a “large room” about twelve to fourteen feet, and he could see further that it contained much mud, with fish, snakes and turtles.

Another prominent sinkhole in Monroe County that is also located in Whiteford Township is known as the “Big Sink”. Big Sink, fed by Sink Drain, is an area of about eight acres located about one-half mile north of exit 5 of U.S. 23 and on the east side of the highway. It has been documented to fill and empty of water more than a dozen times a year, with high water marks that can be easily noted on trees. Fish can be found at times of the year because Halfway Creek, which flows into Lake Erie, will flow backwards into Big Sink at times of the year, such as spring.

In 2001 and 2002, the Monroe County Karst Committee conducted dye tracing of water movement flowing into a known sinkhole within Big Sink. In both years, a positive test for the dye was found in homes in that area and in two different directions from the sinkhole.

Why does Whiteford Township, Monroe County and southeast Michigan have sinkholes? The most prominent bedrock geology in Whiteford Township is the Bass Island Group, which is at or near the soil surface and in a direction going from southwest Monroe County to northeast Monroe County. The bedrock group contains “soft” rock of limestone, dolomite and gypsum, which fractures and dissolves by the action of water (see map on page 52, Figure 4).

[Ctrl/Click here for a map of Monroe County geology](#)

This same bedrock group is also found in Ontario, Canada, Ohio and Kentucky; all areas which have experienced catastrophic geological events in recent years. In May, 2001, half the population of Walkerton, Ontario became sick and 7 people died due to groundwater contamination. In 2005 at Put-In-Bay, South Bass Island, Ohio, hundreds of people were sickened from drinking contaminated groundwater. Public education meetings were held in Monroe County regarding both disasters. Most recently, a Corvette museum built near Bowling Green, Kentucky collapsed into a previously unknown sinkhole.

In Monroe County there have been incidents of groundwater contamination related to karst geology. Reports of unharvested and rotting cabbage left in farm fields had people reporting the smell and taste of rotten cabbage in their drinking water in the Summerfield Township area. A large tire fire had people reporting the taste of rubber in their drinking water. Most recently, an accident of two semi tractors on U.S. 23 at Big Sink had officials worried that their cargos might get into the groundwater and contaminate drinking and irrigation water.

Is there a real risk to groundwater and drinking water? Despite a new public water supply in Whiteford Township, some residents and businesses in Whiteford Township continue to use private wells for their source of drinking water. The “soft” and fractured bedrock could allow water, including

any contaminants, to travel more than 10 miles a day. The U.S. Geological Survey has documented groundwater flows on Monroe County to the east, northeast, southeast and northwest.

Whiteford Township has a diversity of land uses including roads, railroads, pipelines, small airports, business, industry and agriculture and an intensity of residential areas, any of which be sources of contaminants. Agriculture has some drainage wells, drilled years ago, not for the purpose of extracting water, but to drain water down into the ground. Rural homes have septic systems and shallow wells in an attempt to avoid having water with sulfur in it.

Over the years, some sinkholes have been filled in and new ones have appeared. As land uses have changed with newer homes and businesses, some old drinking water wells have been abandoned and not properly closed. All Whiteford Township residents and businesses need to become cognizant of and proactive in their use of the land, soils and any chemicals, including lawn pesticides, that could leach into the groundwater and contaminate an aquifer.

Selected references

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LAND USE

This portion of the Land Use Plan is intended to function as a guide to future land use for Whiteford Township. Agricultural, residential, commercial, industrial and recreation/open space land uses are described in terms of existing conditions, opportunities, policies, and the process used to develop the future land use map. This section will also address the potential availability of public utilities (sewer and water) to Whiteford Township and to address the transportation needs of the Township.



*Woodcut Print of Residence of Eld. J. Wilder, Ottawa Lake
from the Atlas of Monroe County, F. W. Beers & Company,
New York - 1876*

AGRICULTURAL LAND USE

Description

In the past, agriculture was usually looked upon as an alternative land use by planners and communities. Land not deemed suitable or designated for building was categorized as agricultural. Under this section of the plan, all lands will be considered as potential agricultural areas. They will be tested against set criteria to identify those lands that are not suited for agricultural use and separate those where farming is not the best use of the land. The measurements used to determine the lands best suited for agriculture are:

- Soil capabilities
- Farmland Development Rights Agreements
- Large parcels (35 acres or larger acres)
- Existing farmland

These measurements can be further classified as physical or socio-economic.

Existing Farms

Land that is currently being used for farming was the final factor that was considered as part of this plan. This criterion was selected because it also demonstrated an obvious commitment to farming. A large percentage of the Township is actively being farmed (see map on page number.53, Figure 5)

[Ctrl/click here for a map of large parcels of land in Whiteford Township](#)

Opportunities

Judging from the land use inventory in the Community Profile section, Whiteford Township can be considered an agricultural community. There are approximately 17,000 acres of land used primarily for cropland, along with orchards, confined feed operations, permanent pasture land, and other agriculturally oriented uses.

Farms in the Township range in size from 35 to 300+ acres, which generally include the farmhouse and accessory buildings. Major crops include corn, soybeans, wheat, pumpkins, sugar beets, tomatoes, hay and other small grains. Presently, there are over 5,100 acres of farmland enrolled in the Farmland and Open Space Preservation Program with the State of Michigan ((see map on page number 54, Figure 6.)

[Ctrl/click here for a map of current existing farmland in Whiteford Township](#)

Agricultural land is hard to create but extremely easy to lose. Factors such as urban development, erosion, subdivision of land, and financial issues of farmers are current topics that relate to today's farmland. To maintain Whiteford Township's agricultural community, practical methodologies should be enacted.

Zoning regulations, which are implemented and enforced at the local level, can be an effective way of preserving agricultural land. By properly regulating non-agricultural uses, zoning for agriculture can act to stabilize property values in designated areas. However, property zoned agricultural will lose as a farmland preservation medium if zoning requests are approved without considering the integrity of the community or if agricultural districts are seen as just holding areas for future urban development. With a majority of the Township's acreage devoted to agriculture, it would only be reasonable to distinguish the most important or prime farmlands by retaining their agricultural integrity.

The Farmland and Open Space Preservation Act is a state of Michigan program that is initiated by the individual landowner. Local community planning board review and recommendation are required, after receiving comments from the County Planning Commission. Local comments can inform and lend support to the landowner's request prior to formal enactment of the agreement between the individual and the Michigan Department of Natural Resources. Under this Act, owners of eligible land agree to maintain the agricultural use of their farms for a minimum period of ten years. In return, an income tax credit, equal to the amount by which their property tax exceeds 7 percent of the applicant's household income, can be claimed. Landowners are also exempt from special assessments for non-farm uses, such as sewers, lights, water, etc. Enrollment of farmland into the program can be extremely beneficial to farmland preservation, and can also have financial opportunities for the landowner. It is important, however, that the community carefully weigh each application to assure that areas identified for potential urban development are not mistakenly preserved, as it is quite difficult to withdraw from the program once an agreement is executed.

The County of Monroe has enacted a Farmland Preservation ordinance, which can help make the county eligible to receive funding for the purchase of development rights from willing farm owners, thereby permanently preserving farmland and open space. Whiteford Township has passed the necessary resolution to be eligible to participate in the program.

Other opportunities for farmland preservation involve participation and cooperation with other agencies and programs involved with agricultural land. The Cooperative Extension Service in Monroe County can provide farmers with a wide variety of services and educational programs involving efficient agricultural land use. The Soil and Water Conservation District has been active in providing landowners with techniques to prevent erosion through modern farming methods and land use practices, including filter strips, conservation tillage, drain and tile maintenance, conservation and

windbreak plantings, and other methods to preserve farmland. By participating in these and similar programs, the Township can help the landowners protect the long-term viability of their farms.

Goals and Objectives

To preserve the importance of agriculture in Whiteford Township, and to protect the Township's rural atmosphere.

1. Maintain agricultural districts through effective zoning.
2. Encourage cooperation with agencies and programs to reduce erosion of farmland and maximize production.
3. Support the preservation of prime agricultural land through participation in the Farmland and Open Space Preservation Program.
4. Encourage, where appropriate, participation in purchase of development rights programs, land conservancy opportunities, and other means of farmland preservation.

Land Use Policies

1. Keep the truck routes well maintained so farmers can get inputs to the fields and the crops to market.
2. Work with the farmers to maintain the county drains.
3. Work to develop internet availability to the whole township.
4. Keep the zoning ordinance up to date so it reflects the needs of the township.
5. Maintain all roads in the township.
6. Make sure all road ditches are properly mowed to keep invasive species at bay.

Other policies related to agricultural land use include:

1. Agricultural Preservation Districts should be dedicated primarily to agricultural pursuits. Non-agricultural uses should be encouraged to locate in areas more suitable or compatible.
2. Farmers should be encouraged to employ agricultural practices which minimize soil erosion and ground and surface water pollution from sedimentation, animal wastes and chemicals.
3. The Township should support cooperation with the Monroe County Cooperative Extension Service and Monroe County Soil and Water Conservation District on agricultural technology and farmland preservation issues.

RESIDENTIAL LAND USE

DESCRIPTION

As of the 2010 Census, Whiteford Township had a population of 4,602 persons and a housing unit count of 1,757. Comparing the 2010 and 2000 figures, there has been a loss of 13 people but a gain of 77 housing units. This section will discuss where land is currently being used for residential development and where future residential growth can be best accommodated.

Residential development, on a general level, can be classified into one of three primary categories: subdivisions, rural estates and farm lots. Subdivisions are dense concentrations of homes (approximately 2.5 per acre) on small lots and served by secondary roads. For purposes of this section, subdivision type development may include: typical subdivision; apartment, condominium, and townhouse complexes; and manufactured housing communities. There are 12 platted subdivisions in Whiteford Township situated in the southeast portion of the Township, south of Temperance Road and east of U.S. 23. Multiple-family housing (apartments, townhouses, mobile home parks etc...) are represented by the Bedford Meadows Apartments, a 72 unit complex (see map on page number 55, Figure 7).

[Ctrl/click here for a map of the Platted Subdivisions and Multi-Family developments](#)

Rural estates are homes located on 2-20 acre parcels, while farm lots include homes located on large parcels (20+ acres) of agricultural land. Farm lots and rural estates are distributed throughout the Township and are generally served by dedicated County and local road systems (see map on page number 56, Figure 8).

[Ctrl/click here for a map of the Existing Land Usage](#)

The housing stock in Whiteford Township today is primarily single-family, owner-occupied. Almost half of these homes were built prior to 1960. In 2000, the median value of a home was \$129,800, compared to \$132,000 for the County as a whole

Construction of new residential units in Whiteford Township has slowed considerably in recent years. Only six new homes were built in the township in each of the last three years (2007, 2008, and 2009). Since 2000, there have been 174 new housing units built, an average of 19 per year. Since 1990 there have been 375 permits for new single family houses, also an average of roughly 19 new housing units per year. If you include permits issued in the 1980s, a total of 447 new residential units were built, an average of 15 new units per year.

Because of the lack of public utilities (sewer and water) in the township, large scale and denser developments have not developed as they have in adjoining communities to the south (Sylvania and Toledo, Ohio) and east (Bedford Township). This does not preclude the use of on-site wastewater treatment systems or portable water supplies approved by the Michigan Department of Public Health.

Based on the population projections and the building permit data over the past two decades, future housing unit development is not expected to increase appreciably. Using the population projections and SEMCOG's estimated household size for the year 2030 of 2.60, it is estimated that Whiteford Township will need approximately 1,943 total housing units by 2030, an increase of 289 units over the 2000 total, or approximately 10 new units per year.

Utilizing the maximum projected 2030 housing needs and the estimated additional housing units needed to meet that projection, it is appropriate to address a proportionate ratio of housing types. Whiteford Township's housing totals showed that 1,540 units (93.1%) of its 1,654 total units were single family. This percentage is much higher in comparison to those of Monroe County (76.4%) or the State of Michigan (74.5%). In contrast, Whiteford Township's percentages of two-family, multiple family dwelling and mobile homes are lower.

However, these numbers may change with public water and some sewers being provided in the township. As public water becomes more available, there is potential for additional parts of the township to have larger scale and denser development (see map on page number 57, Figure 9).

[Ctrl/click here to see a map of Parcels within Water Districts 1A and 1B](#)

To see recent Whiteford Township facts and demographics, see tables on pages 49 - 50 or click on the following link:

<http://www.towncharts.com/Michigan/Demographics/Whiteford-township-MI-Demographics-data.html>

Opportunities

Lying on the fringe of the Toledo Urban Area, and with easy access to U.S. 23, Whiteford Township has excellent opportunities to expand its residential base. Factors that presently limit this growth include the lack of sewer and water and the importance of agriculture. Currently 37 percent of Whiteford Township's land is in Farmland Development Rights Agreements. With the exception of the eastern $\frac{1}{4}$ of the Township, soils are not conducive to on-site waste treatment; however, Whiteford Township officials have discussed the possibility of public utility extension with the city of Sylvania, Ohio.

Opportunities for residential development include multi-family housing, development of subdivisions and rehabilitation of existing housing stock. The demand for high-density residential development may increase as housing becomes more expensive. Uses associated with high-density development include single and multi-family units, condominiums, manufactured housing communities, and planned unit developments. Such developments should be constructed close to a large population base and close to existing or impending sewer service areas. They should be located near roads, utilities and other public services.

Goals and Objectives

To create a pleasing environment for living in Whiteford Township with a variety of housing types for all tastes and incomes, after taking into account environmental limitations on development.

1. Create effective zoning controls on residential development.

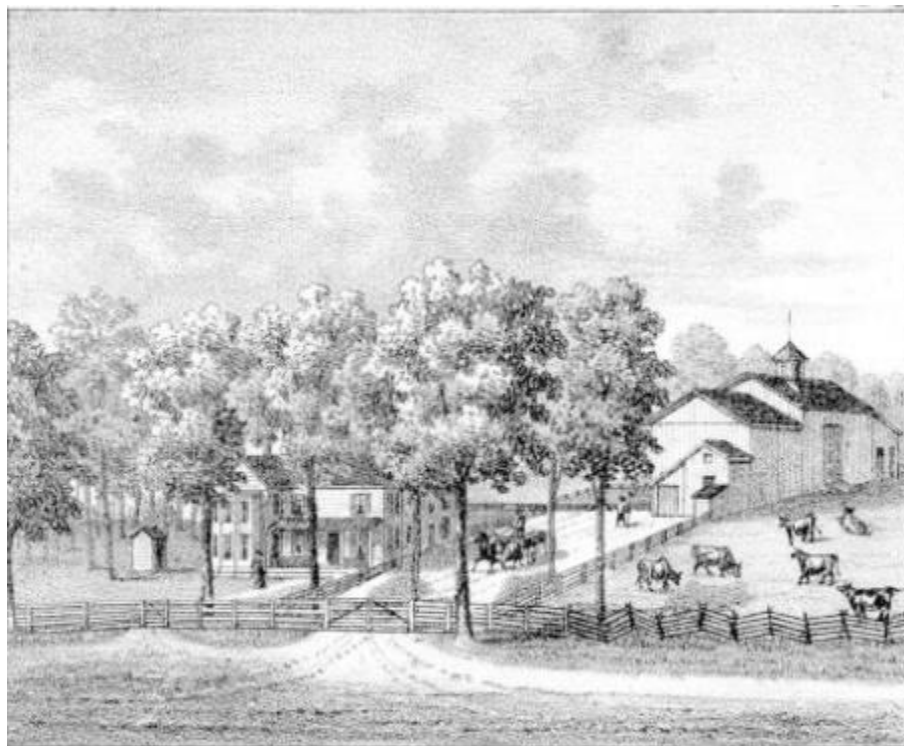
2. Utilize site plan reviews and other building controls to achieve quality development in a pleasant environment
3. Limit residential development to those areas that are best suitable for the intended use.

To preserve the historic, cultural and aesthetic features of Whiteford Township.

1. Encourage the preservation and adaptive reuse of historic structures.
2. Encourage efforts which protect the rural atmosphere and scenic quality of Whiteford Township, such as blight control, farmland preservation, and the planting and protection of native vegetation.

To relate land uses to land capabilities.

1. Encourage development only in those areas where utilities, roads, drainage, soils, natural features, and existing and surrounding land uses are capable of supporting the proposed use without significant impact or conflict.
2. Maintain effective zoning, land use, site plan and subdivision controls.

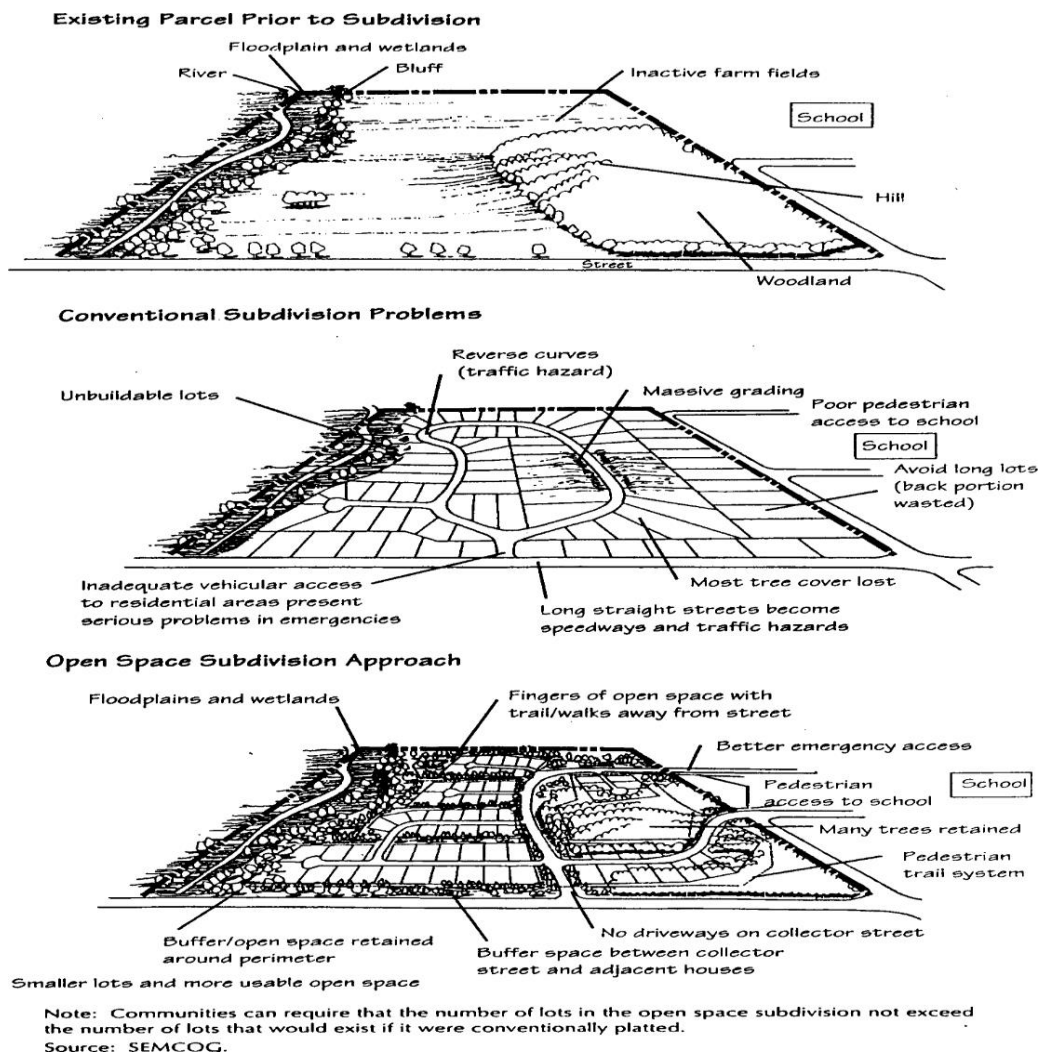


RES. OF HIRAM HUBBARD
SEC. 29 WHITEFORD TWP. MONROE CO. MICH.

Land Use Policies

The following policies represent the basis for the residential land use map. Although the map is meant to guide future residential development in Whiteford Township, it is hoped that these policies will provide a framework for assessing the merits of future development proposals, whether or not they have justification in the proposed land use map.

1. Residential development should be coordinated with the availability of wastewater disposal systems, approved by the Monroe County Environmental Health Division, if on-site. With roughly $\frac{3}{4}$ of the soils in Whiteford Township not conducive to septic systems, low-density development should be encouraged primarily in the Township.
2. Limit development in agricultural areas and encourage development patterns which conserve land. Limiting residential development on agricultural land is essential to maintaining Whiteford Township's social and economic character. Converting farmland to residential use is an irreversible process and should be carefully controlled. For areas which are reviewed and determined that residential uses are appropriate, there are methods to ensure natural features are preserved. Well-planned subdivisions and planned unit developments can be useful ways to achieve attractive neighborhoods, reducing the unnecessary conversion of agricultural lands and open space.



3. Encourage a diversity of housing styles. Single family detached homes comprise the majority of housing in Whiteford Township. Changing lifestyles and economic incentives can make other types of development attractive to residents. Alternative housing styles include rehabilitated historic structures, two-family developments, multi-family housing, modular or prefabricated homes, and smaller single-family homes.
4. Avoid development in floodplains. Some of Whiteford Township lies within the 100-year floodplains of Halfway Creek, the north branch of the Ottawa River, and the Ottawa Lake outlet. While flood damage can be avoided in some cases by raising floor elevations above flood level or using flood control structures, development in flood hazard areas should be avoided whenever possible.

Future Residential Land Use

Land suitable for future residential development is illustrated on the Residential Land Use Map (see map on page 58,

Figure 10)

[Ctrl/click here to see a map of Residential Land Use.](#)

The map identifies three residential land use classifications which provide for a range of housing types and densities and which conform to the public utility service areas to be discussed later. The following is a description of these residential land use classifications.

Low Density Residential

Low density residential areas should be developed with high quality single family housing in attractive settings. Housing densities of 0.2 to 1 units per acre or less are generally considered low density. Areas most suited for low density residential include:

- The southeast portion of the Township bounded on the north and west by Consear Road, U.S. 23, Sterns Road and Memorial Highway;
- The intersection of Beck Road and Memorial Highway; and
- The area along Summerfield Road from St. Anthony to Samaria Roads.

Medium Density Residential

The medium density residential classification use is intended for single family housing units developed at a density of 2.0 to 5.0 dwelling units per acre. Medium density housing should be located in areas served by public water and sanitary sewer facilities. Areas designated medium density residential on the Residential Land Use Map includes:

- The extreme southeast portion of the Township, south of Section Road and west of Whiteford Road, plus that portion of Fractional Section 2 from Orchard Grove Place eastward;
- That portion of the Township lying south of Yankee Road between Memorial Highway and U.S. 23; and
- The unincorporated area of Ottawa Lake.

High Density Residential

High density residential areas are intended to be developed at a density of 5.1 or more dwelling units per acre. Housing types may include single family attached townhouses, apartments, condominiums or mobile home parks. High density housing serves as a transitional use between commercial development and lower density single family housing, and is located near major thoroughfares. The Residential Land Use Map designates one general area where high density residential development is appropriate:

- Around the intersection of Whiteford Center and Sterns Roads in the southeast portion of the Township.
- Around the Ottawa Lake village area.

COMMERCIAL LAND USE

Description

Commercial land use represents only a small percentage of total acreage in Whiteford Township. The main commercial activity centers include the three interchanges on U.S. 23 at Sterns, Consear and U.S. 223/St. Anthony Roads; the unincorporated Village of Ottawa Lake; and the intersection of Memorial Highway and Green Road, near the Lucas County and City of Sylvania border in Ohio (see map on page 59,

Figure 11).

[Ctrl/click here to see a map of Existing Commercial Land Usage](#)

Commercial land use in Whiteford can be divided into two basic categories: highway oriented businesses and local, family oriented businesses. The highway oriented businesses are situated along the U.S. 23 corridor and service either traveler/pass-through users or regional area needs. The local, family oriented businesses are primarily located along Memorial Highway and Whiteford Center Road, and serve the needs of the neighborhoods or the Township at large. These businesses are connected to storage, recreation, services, eating, and arts and crafts. For comparison shopping and major grocery purchases, residents travel to nearby Bedford or the cities of Toledo or Sylvania, Ohio.

Opportunities

Expansion to the commercial base of the Township would not only provide an increased tax base, but would provide local sources for everyday and leisure comforts. Opportunities for commercial development include highway oriented businesses, as well as an expanded retail trade designed to meet the day-to-day consumer needs.

Highway related businesses should be aimed at servicing not only the through traffic along U.S. 23, but also the local people. Gasoline service and repair stations, motels and restaurants are typical activities usually sited at freeway interchanges. Local business opportunities could include neighborhood markets, professional services, restaurant/lounges, and agricultural services to meet the needs of Whiteford Township's agricultural community.

Goals and Objectives

Provide an environment for commercial activities in designated areas that have required facilities, and not allow commercial activities in scattered spots or strips throughout the Township.

- Maintain effective zoning and land use controls.

- To concentrate commercial development in close proximity to urban centers along U.S. 23 at major interchanges.

Land Use Policies

The selection of suitable sites for commercial development is important to both the success of the commercial enterprise and for the protection of adjacent land uses and the smooth flow of traffic. The following commercial land use policies are aimed at promoting appropriate commercial development in Whiteford Township, while maintaining the value of other types of land uses.

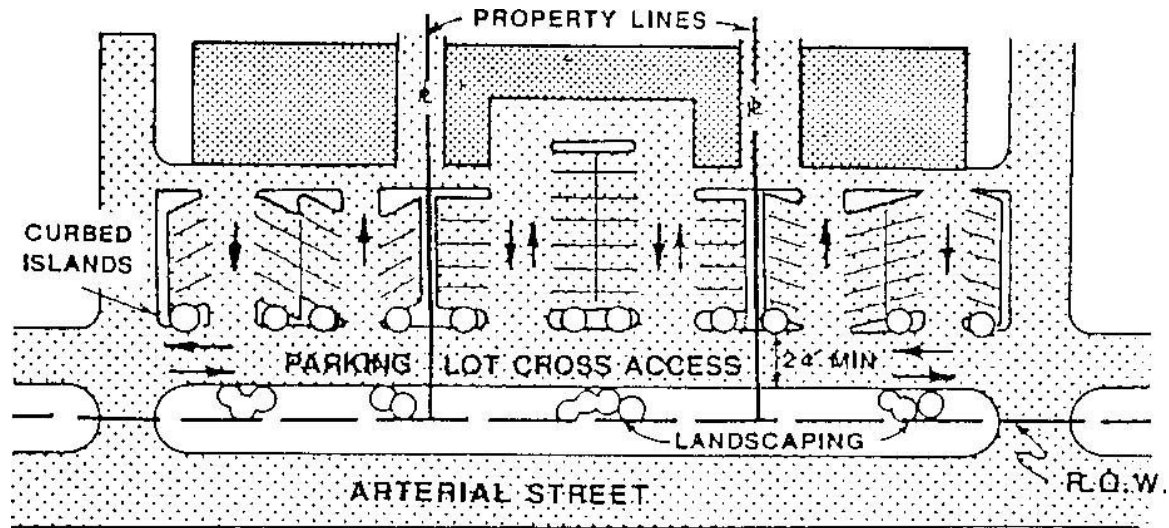
Consolidate Commercial Areas

Clustering commercial land uses into well-defined districts would provide maximum convenience to shoppers and would prevent the traffic and visual quality problems associated with commercial

strips spread over a wide area. Consolidated commercial districts also allow shoppers to make several purchases at one location, benefiting both the consumer and the store owner.

As part of the development scheme to consolidate commercial areas, the use of a service drive may also be warranted. A service drive would provide access to individual uses and at the same time limit access points to the main thoroughfare. Traffic problems caused by individual ingress/egress points would be avoided, and signalization could be incorporated in the service drive approach.

Source: Grand River Avenue Area Corridor Study: Genoa Township, Michigan, The WBDC Group, February 1989



Locate Commercial Districts in Appropriate Areas

Local commercial districts should be located near population centers and near intersections of major roads in order to provide easy access for shoppers, as well as high visibility for retailers. Similarly, areas near highway interchanges provide suitable sites for automobile service and repair stations, motels and restaurants. Commercial districts should also be served by either public utilities (sewer, water and gas) or by approved on-site systems.

INDUSTRIAL LAND USE

Description

Approximately 800 acres (3.1%) of Whiteford Township land is used for industrial, utility or extractive operations. These uses are primarily located in the southern $\frac{1}{4}$ of the Township, along Sterns Road (east of U.S. 23), and on Yankee Road and Memorial Highway (west of U.S. 23) (see map on page 60,

Figure 12).

[Ctrl/click here to see a map of Existing Industrial Land Usage](#)

Opportunities

Because of Whiteford Township's proximity to U.S. 23 and Toledo, there is potential to attract quality industries and to expand upon the existing industrial base. However, this potential is dependent on the availability of sewer and water. The outgrowth of new industries and the expansion of existing ones would provide employment for local residents, as well as increase the tax base. These spinoffs are seen as desirable, as long as the type of industry, impact on the environment, and burden on community facilities are not excessive.

Several organizations could be called upon to assist the Township in attracting industry. The Monroe County Planning Commission works with the Monroe County Industrial Development Corporation (MCIDC) to provide site information to developers. The Commission reviews new development to maintain orderly growth and work toward goals established in the Monroe County Comprehensive Plan.

The MCIDC is a private, non-profit organization, whose goal is to attract new businesses and retain existing businesses in Monroe County. The MCIDC is able to provide information to prospective developers pertaining to available sites, as well as financial packages which are available, including various loans, bond and grant programs.

The Monroe County Economic Development Corporation (MCEDC) is a public corporation which, through the sale of tax exempt bonds, is able to provide low cost funds for attracting economic development. The Economic Development Corporation Act of 1974 also allows municipalities to acquire land through eminent domain and then transfer the land to the economic development corporation.

These organizations have been utilized by the Township to assist with expansion of local businesses and extension of the sewer lines to the industrial park in Whiteford Township.

Other resources which could be utilized to attract industry to Whiteford Township include the Southeast Michigan Council of Governments' (SEMCOG) computerized industrial site directory, the Monroe County Chamber of Commerce, and the Small Business Center of the Monroe County Community College.

Goals and Objectives

Allow for industrial expansion where it will have the least conflict with surrounding land uses, that maintains environmental integrity and utilities are available.

- Maintain effective zoning and land use practices.

- Support industrial development adjacent to existing industrial activities.

- Support the use of railroads and freeways for industrial shipping purposes within the Township.

Sewer and/or water service should be provided to selected areas of the Township after careful assessment of the social, environmental, and economic costs and benefits involved in providing these services.

Monitor the public health and safety concerns related to on-site sewage disposal and ground water quality.

Explore the availability of federal and state grants to provide public utilities to the Township.

Land Use Policies

In identifying suitable sites for industry, certain criteria should be considered. Although the purpose of a land use plan is to identify suitable sites for particular types of uses, a plan must be flexible enough to allow proposals which do not conform to the plan to be assessed on a case-by-case basis. The following site criteria will help to identify suitable locations for industrial land use, as well as to provide standards for reviewing future proposals for development outside of designated industrial districts.

Current Land Use

The current use of a parcel of land has a bearing on whether an industrial use is appropriate. The need for industry in Whiteford Township must be balanced with the need to maintain valuable agricultural land, historic resources, or other natural or cultural features. Although additional industrial development in the Township would most likely occur on land presently in agricultural use, it is important to promote industry in areas that are not essential to agriculture or other irreplaceable resources. The best locations for prospective industry would be on sites which are adjacent to existing industrial uses or on marginal farmland.

Characteristics of the Surrounding Area

Neighboring land uses must be considered in selecting suitable sites for industry. Industrial land uses should, in general, be located away from residential areas, which could be devalued by noise, odors, smoke or other potential environmental impacts. Light industrial uses, such as storage areas and warehouses, might be more compatible with commercial and residential districts than heavy industry, such as material processing or assembly plants. In situations where industry may not be compatible with the surrounding area, practices such as buffering, setbacks, fencing and landscaping can help minimize adverse impacts.

Parcel Characteristics

The size and shape of a parcel, as well as its characteristics, will have an important effect on the site's suitability for industrial land use. Although individual industries will have their own space requirements, in general, parcels need to be large enough to accommodate a building plus parking, loading, setbacks, drainage retention, landscaping and possible future expansion. Parcels suited for industrial use generally require suitable soils for development. Sites which are flood prone, poorly drained, or have a high water table, shallow soils, and steep holes should generally be avoided.

Availability of Utilities

Most industrial land uses would require sewer and water service, as well as electric and gas. Determining suitable sites for industry needs to go hand-in-hand with facilities planning, so that areas to be developed for industrial land uses are also areas which can be efficiently served by sanitary sewers and water supply lines.

Transportation

Industrial land uses have to be accessible from major transportation corridors, but also need to be located where heavy traffic volumes can be accommodated without disruption of local or residential traffic. The U.S. 23 and Memorial Highway corridors should be analyzed for new or expanded industries in Whiteford Township. Memorial Highway also provides rail transportation on the Norfolk-Southern spur, which serves the ADM Terminal, by way of Sylvania and Toledo, Ohio.



Woodcut Print of Residence of Mrs. Margett Ferris, Section 4, Whiteford Township from the Atlas of Monroe County, F. W. Beers & Company, New York - 1876

RECREATION, EDUCATION AND OPEN SPACE

Description

Parks, golf courses, sportsmen clubs, school facilities and unique natural features are aspects of a community that provide its citizens with both active and passive recreational opportunities. They also provide the amenities which people often refer to as “Quality of Life” (see map on page 61,

Figure 13).

[Ctrl/click here to see a map of Recreation and Education Land Usage](#)

There are several types of recreation facilities available to the residents of Whiteford Township (see Table 1). There is one public school in the township; it has ball fields and open play areas, as well as other facilities. There are two parks that offer recreation/open space opportunities. The Covered Wagon Park offers overnight camping and water activities as well.

Table 1. Recreation Inventory

Facility Name	Acreege	Equipment
Schools		
Whiteford Agricultural Schools (K-12)	44.4	P,F,B,PK
Parks		
Whiteford Stone Co Community Park	96.0	F,PK
Ottawa Lake Park	1.2	----
Golf Courses		
Crooked Creek Golf Course	80.0	PK,SH (18 Holes)
Cherrywood Golf Course	37.6	PK,SH (9 Holes)
Whiteford Valley Golf Complex	400	PK,SH (36 Holes)
Quarry Ridge	40.0	PK,SH (9 Holes)
Legacy Golf Course	219.8	PK,SH (18 Holes)
Private Facilities		
Schnipke Park	70.0	PIC,SH,PK,SW/F
Covered Wagon Park	20.0	PIC,SH,PK,SW/F
Ottawa Lake Sportsmen Club*	12.5	PK,SH
Great Northern Sportsmen Club	3.1	----
Natural Amenities		
Sink Creek Marsh Area	152.6	----
Noble Pond	20.0	----
Ottawa Lake Lakebed	75.0*	

*A portion of the Ottawa Lake Sportsmen Club lies within the Ottawa Lake Lakebed

Key: P: Playground Equipment, PIC: Picnic area, PK: Parking, F: Fields (Softball or Baseball), S: Soccer Field, SH: Shelter Bldgs. or Restrooms, B: Basketball Court, SW/F: Swimming/Fishing

Five golf complexes are located within the Township, with the Whiteford Valley Complex offering 2 complete 18-hole courses, including a driving range and banquet facilities. Two sportsmen clubs and a private park also offer some recreational activities to residents. The Whiteford Stone Co. Community Park, Recreation, Open Space and Greenways Plan was approved by the Township in 2006. This Park offers over 4 miles of hiking trails, an 18 hole disk golf course, and 6 ball diamonds. There is room for 4 soccer fields. The path through the woods offers views of an alvar prairie. An

alvar is a biological environment based on a limestone plain with thin or no soil and, as a result, sparse grassland vegetation.

In addition, the Whiteford Recreation Club, Inc., is a private non-profit organization, that works with the Township Board and Whiteford Agricultural School, providing recreational programs throughout the year.

Other Recreational Opportunities

Surrounding communities offer Whiteford Township residents a wide variety of recreational opportunities. Monroe County owns Vienna Park, a 57-acre site in Bedford Township that offers both active and passive recreational pursuits. The Toledo Metropolitan area offers a variety of outdoor and indoor activities, such as the Wildwood Preserve Metropark, Ottawa Park, the Toledo Zoological and Botanical Parks, the Toledo Museum of Art, the Stranahan Theater/Toledo Masonic Auditorium, the Toledo Recreation Center, and Toledo Sports Center.

Lake Erie, the Walleye Capital of the World, provides boating and fishing opportunities, and Cedar Point in Sandusky, Ohio is a well-known amusement facility. Sterling State Park, just north of the City of Monroe, provides additional camping, swimming and active and passive recreational pursuits. River Raisin National Battlefield Park is located in the city of Monroe, MI.

Goals & Objectives

The following goals and objectives are taken from the Whiteford Township Community Park, Recreation, Open Space and Greenways Plan:

Provide for present and future recreational needs of all citizens of the Township.

- Promote the preservation and improvement of existing parks, both public and private.
- Support the development of parks and open space in any new residential development.
- Support the development of non-governmental recreational facilities, as long as the proposed developments do not conflict with land use plans and policies.
- Complete the development of the 96-acre community park at the intersection of Sterns and Whiteford Roads.

To preserve the natural features of the Township.

- Encourage the preservation of woodlands, wetlands, and other natural areas.
- Encourage the planting of windrows and buffer strips as a means of preventing soil erosion and sedimentation.

Develop a long range strategy for acquisition and development of new greenways, multi-use trails and linkages between recreation facilities.

- Form a committee to study, review, and pursue creation of potential linkages between recreational facilities in the Township, based on the obvious demand for this form of recreational amenity indicated in the Community Survey.
- Potential locations for multi-use trails, bike paths, bike lanes, and other linkages should be explored.
- Wherever possible, existing or planned facilities should be linked.
- Feasibility of various options should be studied in terms of acquiring necessary right-of-way and/or conservation easements.
- Pursue potential funding alternatives for such linkages.

Develop a funding mechanism for maintenance and management for the outdoor recreation facilities.

- Identify the likely costs associated with the maintenance and management of existing facilities.
- Identify all potential funding tools that could be used in developing financial strategies
- Apply regularly to the MDNRE for state grant funds for land acquisition and outdoor recreational development and improvement funds.

Improve communication and coordination between agencies involved in public access and use of public lands for recreation.

- Work closely with county, state and local organizations involved in outdoor recreation.
- Seek and develop cooperative relationships with other public and private organizations.

Recreational Land Use

Recreation/Open Space uses are identified on the [Recreation Land Use Map](#).(page 61, Figure 13) This map basically identifies only those existing facilities or areas that possess recreational attributes or amenities that should be addressed and/or preserved. One area of importance is the Township's drainage system. These drainage ways should be protected and used as filter strips, especially in the agricultural district. Development near them should be carefully monitored (see map on page 62,

Figure 14).

[Ctrl/click here to see a map of the Drainage System Land Usage](#)

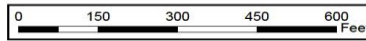
Another recreation area being developed is Whiteford Stoneco Community Park, located on the south east corner of Sterns and Whiteford Roads. It currently has parking, an 18 “hole” disc (aka Frisbee) golf course and baseball diamonds with walking trails and soccer fields under development (2019).

Figure 2. Whiteford Stoneco Community Park Showing Proposed Improvements

Stoneco Park Proposed Improvements



Coordinate System: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Int
 Projection: Lambert Conformal Conic
 Datum: North American 1983
 False Easting: 13,123,359.5801
 False Northing: 0.0000
 Central Meridian: -84.3567
 Standard Parallel 1: 42.1000
 Standard Parallel 2: 43.6667
 Latitude Of Origin: 41.5000
 Units: Feet



At 24 in x 36 in
 1 inch = 100 feet

Date: 6/12/2017



INFRASTRUCTURE IMPROVEMENTS

In order for a community to grow, especially one adjacent to a major urban center, it must provide for those amenities that will ensure growth; namely, public sewer and water, and a quality transportation network. The following addresses these concerns:

Public Utilities (sewer & water)

As addressed in the Community Profile section, Whiteford Township has installed sewers along Memorial Highway and is installing water lines from the Beck Road Water Plant to exit 5 and the school. Going west, we serve Ottawa Lake south to Green Road to Home City Ice.

The sewer lines go from Ottawa Lake to the State Line down Memorial Highway. These lines are force mains with sewer treatment provided by the Lucas County Sanitary Sewer System of which Sylvania is a partner.

The rest of the township is still on well and septic systems, but the demand for water and sewer will continue to grow.

Goals & Objectives

Sewer and/or water service should be provided to all areas of the Township. With the Karst limestone under our township and the number of sink holes in the Karst formation, Municipal water is a priority.

- The township should continue monitoring the public health and safety concerns related to on-site sewage disposal and groundwater quality.
- Explore the availability of federal and state grants to provide public utilities to the Township.

To relate land uses to land capabilities.

- Encourage development only in those areas where utilities, roads, drainage, soils, natural features, and existing and surrounding land uses are capable of supporting the proposed use without significant impact or conflict.
- Maintain effective zoning, land use, site plan and subdivision controls.

To use tax dollars efficiently by avoiding the duplication of services, and to put government on a sound financial basis.

- Investigate grants and matching funds from a variety of sources to finance capital improvements.
- Strive for improved coordination between various governments' capital improvement planning.

Future Utility Plans

To anticipate the future growth expected over the next 20-25 years, Whiteford Township officials have already begun discussions for the possibility of extending public utilities with adjacent communities. The following will address various options for each:

Public Sewer Service

Preliminary discussions on the extension of public sewer lines have been held with Bedford Township, the City of Sylvania, Ohio and Lucas County/City of Toledo. Based on these discussions, it has been determined that the most reasonable alternative for sewer service would be from either the City of Sylvania or Lucas County, Ohio. Because of long range capacity concerns, the Bedford Township alternative has been eliminated.

To support this recommendation, the Toledo Metropolitan Area Council of Governments (TMACOG), as part of their long range planning efforts, is in the process of updating their Sewerage Facility Planning Area Map for the years 1990-2030. The southern portion of Whiteford Township has been recommended to be aligned with the Ohio Sewerage Facility Planning Areas. This area is bounded by Consear Road on the north, to the Bedford line, and South to the Ohio border. In addition to the main service area, it is suggested that the Whiteford Agricultural School Complex be served by this system. Should Bedford Township extend utilities north along Summerfield Road, it is recommended that the St. Anthony area, in the northeast corner of the Township, remain with the Bedford Township Facilities Planning Area (see map on page 63, Figure 15).

[Press ctrl+click to see a map of the Proposed and Existing Sewer Service Area](#)

Public Water Service

In 2013, an income study was done in the Ottawa Lake area and it was determined that it was eligible for a grant from USDA Rural Development. The township, then under a mandate to provide sewers, entered into an agreement with Sylvania, Ohio to take and process the township's sewage. That was completed in 2014. The township then began working on the water project. In 2017, ground was broken for the municipal water project. The first loop was completed during 2018 (see map on page 64, Figure 16).

[Press ctrl+click to see a map of the Proposed and Existing Water Loops](#)

The Beck Road Water Plant was completed and made operational in March, 2019. It consists of two wells, several water filtration systems, chemical treatment areas, multiple pumps and back-up power generation systems. It can be monitored locally, from the graphic pictured below or remotely (see picture on page 65, Figure 17).

[Press ctrl+click to see a graphical representation of the Beck Road working water plant](#)

Transportation

The overall transportation system of a community contains any mode of transportation that is used in the community or used by residents of the community outside of the community's boundaries. The elements of a transportation system include roads and highways, railroads, public transportation, air and water travel, and bike and walking trails. Not all of these elements are present within Whiteford Township, nor are they located in most non-urban communities; however, they are located within a thirty minute drive.

Whiteford Township is strategically located in proximity to north/south, as well as east/west, travel routes. U.S. 23 provides residents and commerce with easy access to regional metropolitan areas and markets. Toledo's Express Airport, Central Union Station and the Port of Toledo are all within 15 miles of the Township. Detroit's Metropolitan Airport is approximately 50 miles away. Toledo Suburban Airport, a privately-owned facility classified as a general utility airport, is located within the Township. Public transportation, while not available to the general public, is offered to senior citizens and handicapped individuals through the Lake Erie Transit Commission.

The only other transportation mode in Whiteford Township is a 1.5 mile section of Norfolk-Southern track that is situated adjacent to Memorial Highway and serves the Ottawa Lake Co-op and ADM Terminal.

The Toledo Suburban Airport, located in the southeast corner of the Township, is presently a Class B, General Utility Airport. A Class B airport has at least a 3,800 foot runway and is designed for a broader spectrum of general aviation needs, as well as some air taxi and commuter traffic with 20 seats or less, and some of the small business jets with low approach speeds.

The Norfolk-Southern rail spur is a vital economic development tool that the Township should insist be retained. While currently used by the Ottawa Lake Co-op and ADM Terminal, it could be utilized for future industrial development along Memorial Highway.

Goals and Objectives

Improve the vehicular circulation of the Township to provide for the smooth and efficient flow of automobiles, trucks, buses, farm equipment and emergency vehicles.

Support the development of an overall transportation and maintenance program for the Township in accordance with state, regional and county agencies under the auspices of the current federal transportation act.

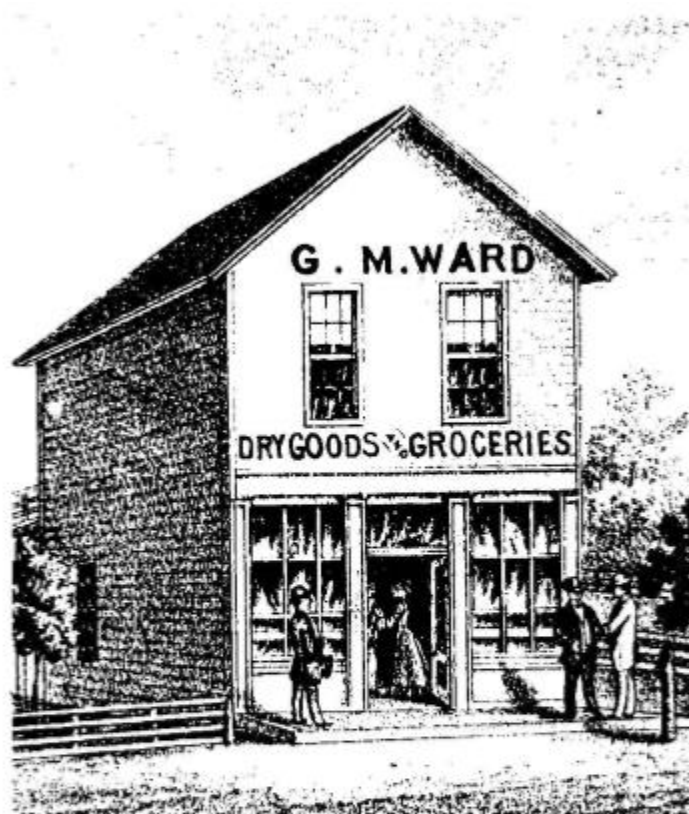
Future Transportation Plans

Road maintenance and construction are areas that are a joint partnership between the local community and the Monroe County Road Commission (MCRC). These efforts are usually part of the Road Commission's Transportation Improvement Program (T.I.P.), which is an annual process that generally covers a three year period. The Michigan Department of Transportation (MDOT) projects are addressed in the same manner. The present 3-year T.I.P. (2009-2011) does not specifically include any Whiteford Township projects.

Whiteford Township, over the years, has budgeted monies to do road maintenance. This process has been very effective and should be continued. Whiteford officials should also continue to work closely with the County Road Commission on major road improvement

projects, and to review MCRC road condition information that will enable them to identify future road maintenance projects. (see map on page 66, Figure 18)

[Press ctrl+click to see a map of the Truck Routes in Whiteford Township](#)



Woodcut Print of Residence and Store of George M. Ward, Dealer in Dry Goods & Groceries and Agent for the Michigan State Insurance Company, Whiteford Center from the Atlas of Monroe County F. W. Beers & Company, New York 1876

MASTER PLAN MAP

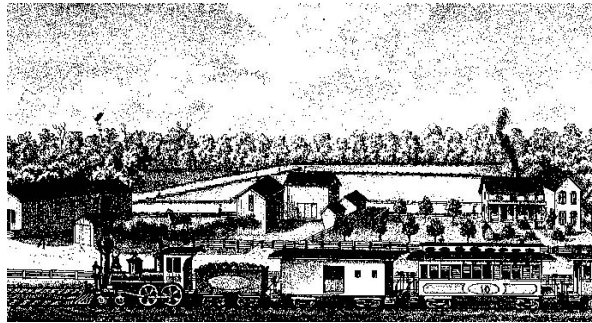
The following Master Plan Map delineates the future land use proposals for Whiteford Township. This map was created from the combination of ideas addressed in the previous Land Use Program section for Agricultural, Residential, Commercial, Industrial, Recreation and Open Space and Transportation. In merging these specific concept maps, disagreements periodically occurred where different land use proposals would overlap one another. In these instances, a decision was made on the most appropriate use. The prevailing aim through this master planning process was to designate the highest and best use of land to various segments of the Township and to avoid conflicts between incompatible uses (see map on page 68, Figure 20)

[Press ctrl+click to see the map of Zoning Land Usage](#)

Although the Land Use Plan Map divides the Township into distinct districts, it should be viewed as being flexible enough to allow for amendments as social, physical, or economic conditions evolve. The Master Plan Map should adequately serve the Township as a guide for assessing the appropriateness of proposed zoning and land use changes (see map on page 67, Figure 19).

[Press ctrl+click to see the map of the Master Plan for Whiteford Township](#)

The following narrative provides summary descriptions of each district within the Whiteford Township Master Plan Map.



3. *Woodcut Print of Residence and Blacksmith Shop of Anthony Bordeaux, Section 29, Whiteford Center from the Atlas of Monroe County F. W. Beers & Company, New York 1876*

AGRICULTURE

1. Agricultural District

The Agricultural District includes those areas of the Township where physical and socio-economic factors indicate a high suitability for the production of food, forage, fiber or oilseed crops. These areas should be dedicated primarily to agricultural pursuits; non-agricultural uses should be encouraged to locate in areas more suitable or compatible

RESIDENTIAL

The residential land use portion of the Plan is divided into three categories: low density, medium density, and high density. Residential areas are proposed for primarily the southeast and south-central portions of the Township.

1. Low Density Residential (R1 and R2)

Areas designated for low density residential use should be developed with high quality single family housing in attractive settings. Housing densities of .2 to 1.0 units per acre are considered low density. (see map on page 69, Figure 21)

Areas identified as low density include the south-central portion of the Township south of Sterns Road between Memorial Highway and Whiteford Road; from Whiteford Center Road east to Bedford Township and south of Temperance Road; the unincorporated areas around St. Anthony's in the northeast portion of the Township; and Ottawa Lake near the intersection of Memorial Highway and Beck Road.(see map on page 70, Figure 22)

[Press ctrl + click to see a map of R1 Single Family Rural Residential Zones](#)

[Press ctrl+click to see a map of R-2 Low Density Residential Zones.](#)

2. Medium Density Residential (R3)

Areas designated for medium density residential use are intended to be single family housing units developed at a density of 2.0 to 5.0 dwelling units per acre. At this density, medium density housing shall be located in areas served by public water and sanitary sewer facilities.

Areas designated for this density of development include the extreme southeast portion of the Township bounded by Sterns Road on the north, Bedford Township on the east, Whiteford Road on the west, and Lucas County, Ohio on the south. The northeast $\frac{1}{4}$ of fractional Section 2 is also included in the area. Another area is that part of the Township adjacent to Sylvania, Ohio, bounded by Yankee Road on the north, Sylvania-Petersburg Road on the east, and Memorial Highway on the west. The only other area proposed for this density is in the unincorporated area of Ottawa Lake. (see map on page 71, Figure 23)

[Press ctrl+click to see a map of R-3 Medium residential Zones](#)

3. High Density Residential (R4 and R5)

High density residential areas are intended to be developed at a density of six or more dwelling units per acre. Housing types may include single family attached townhouses, apartments, condominiums or mobile home parks. High density housing serves as a transitional use between commercial development and lower density single family housing, and is located near major thoroughfares and shall be located in areas served by public water and sanitary sewer facilities.

The Master Plan indicates the area bounded by Clegg Road (extended west) on the north, Whiteford Center Road on the east, Whiteford Road on the west, and Section Road on the south as the primary area for this density of development.(see map on page 72, Figure 24 for R-4; see map on page 73,

Figure 25 for R-5))

[Press ctrl+click to see a map of R-4 High Density Residential Zones](#)

[Press ctrl+click to see a map of R-5 High Density Residential Zones](#)

COMMERCIAL

Commercial development within Whiteford Township consists of two types: Highway Oriented and Local. For comparison shopping and major grocery purchases, residents usually travel to nearby Bedford or the cities of Toledo or Sylvania, Ohio. (see map on page 74,

Figure 26)

[Press ctrl+click to see a map of Commercial Zones](#)

The following describe each type and their proposed locations.

1. Highway Oriented Commercial

This type of business caters primarily to the motoring public and/or deals with services of a regional nature, such as hotels/motels; automobile service and repair; new or used car dealers; and outdoor sales and service establishments. Utility service should be compatible with the use.

These types of uses are designated at the three interchanges along U.S. 23 at Sterns Road, Consear Road and U.S. 223.

2. Local Commercial

Existing concentrations of local businesses are located along Memorial Highway and Whiteford Center Road, and primarily serve the needs of the neighborhoods or the Township at large. These businesses relate to storage, recreation, services, eating, and arts and crafts. Designated areas for future development include the intersection of Whiteford Center and Sterns Roads, the east side of Memorial Highway south of Yankee Road, the intersection of Memorial Highway and Ottawa Lake Road, and the area near Schnipke Road and Sterns Road.

INDUSTRIAL

Industrial development in Whiteford Township should remain primarily Light Industrial - small manufacturing, tool and die, warehousing and research based facilities. Two primary industrial areas are proposed in Whiteford Township that concentrate future development adjacent to existing facilities. These areas include:

- The east side of the U.S. 23/Sterns Road interchange between Section Road and Ottawa Lake Outfall Drain and west of Jeffs Road.
- That portion in the southwest corner of the Township roughly bounded by Lynch Road on the north, Clark Road to the west, Yankee Road on the south, and Turk Road to the east.(see map on page 75, Figure 27)

[Press ctrl + click to see a map of the Industrial Zones](#)

Sewer service is available to the former Dana facility at the intersection of Clark and Yankee Roads. Additional development and service could be provided in this area should the proposed public facilities be developed.

A second public sewer line has been developed by the Township to serve Midwest II, Inc. located on the east side of U.S. 23 at Section and Hicker Roads. In addition, Schnipke Road, a Class A, all-weather road, has been constructed from Sterns Road to provide a direct link to Midwest II, Inc. and open up approximately 100 acres for further industrial use.

Both force main sewer lines are part of the City of Sylvania, Ohio sanitary sewer system.(see map on page 76, Figure 28)

[Press ctrl + click to see a map of the Existing and Proposed Sewer Districts](#)

RECREATION/OPEN SPACE

Areas included in this classification include the golf complexes of Crooked Creek, Cherrywood, Whiteford Valley, Quarry Ridge and Legacy; the new Whiteford Stoneco Community Park and Ottawa Lake Park; Schnipke Park; Covered Wagon Park; the Toledo Memorial Park & Mausoleum property (see map on page 61,

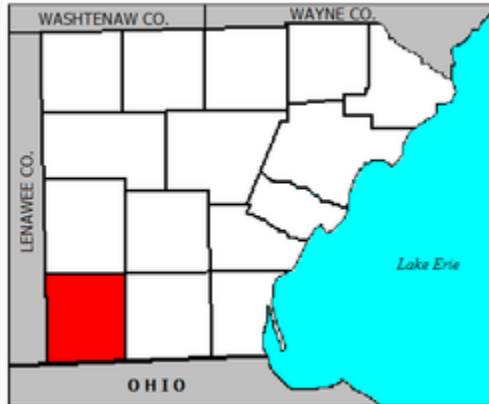
Figure 13); and the drainage system of Halfway Creek, Ottawa River Drain and Ottawa Lake Outlet Drain (see map on page 62,

Figure 14).


INFRASTRUCTURE IMPROVEMENTS

Infrastructure improvements for Whiteford Township include the service area boundaries for public utilities (sewer and water). Public sewer and water service areas for this plan are identified and outlined on pages 63 and 64, Figure 15 and Figure 16. They include the majority of the southeast portion of the Township that is bounded by Consear Road on the north; U.S. 23, Sterns Road and Memorial Highway on the west; Bedford Township to the east; and the Ohio State line to the south. The unincorporated area of Ottawa Lake and the Whiteford Agricultural School Complex are included for utility service; however, these areas are proposed to be connected by force mains, as indicated on the map. The area around St. Anthony's Parish is also identified for future utility service, but is proposed to be part of the Bedford Service Area if utilities are extended out Summerfield Road.

Whiteford Township, Michigan Facts



Location of Whiteford Township within Monroe County.


 Whiteford Township, Michigan
 Location within the state of Michigan

Coordinates:  41°46'43"N 83°41'28"W  Coordinates:
 41°46'43"N 83°41'28"W

Country	United States
State	Michigan
County	Monroe
Area	
• Total	40.3 sq mi (104.3 km ²)
• Land	39.8 sq mi (103.2 km ²)
• Water	0.4 sq mi (1.1 km ²)
Elevation	679 ft (207 m)
Population (2017)	
• Total	4,498
• Density	113.0/sq mi (42.8/km ²)
Time zone	Eastern (EST) (UTC-5)
• Summer (DST)	EDT (UTC-4)
FIPS code	26-86740 ^[1]
GNIS feature ID	1627261 ^[2]
Website	whitefordtownship.org

Whiteford Township demographics

2017

Place	Population 2010	Population 2017
Whiteford Township	4,602	4,498

Whiteford Township, MI People per Sq. Mile		Median Age in Whiteford Township, MI	
Place	Population Density	Place	Median Age
Riga Township	27	Compare: United States	37.8
Summerfield Township	77	Compare: Toledo-Port Clinton, OH CSA	38.0
Compare: United States	91	Compare: Michigan	39.6
Whiteford Township	113	Summerfield Township	41.4
Compare: Michigan	176	Sylvania	41.4
Compare: Toledo-Port Clinton, OH CSA	399	Riga Township	48.3
Bedford Township	791	Sylvania Township	42.3
Lambertville	1543	Bedford Township	45.1
Sylvania Township	1,703	Lambertville	45.2
Sylvania	2,903	Whiteford Township	47.1

Figure 3 Known Sinkholes in Whiteford Township

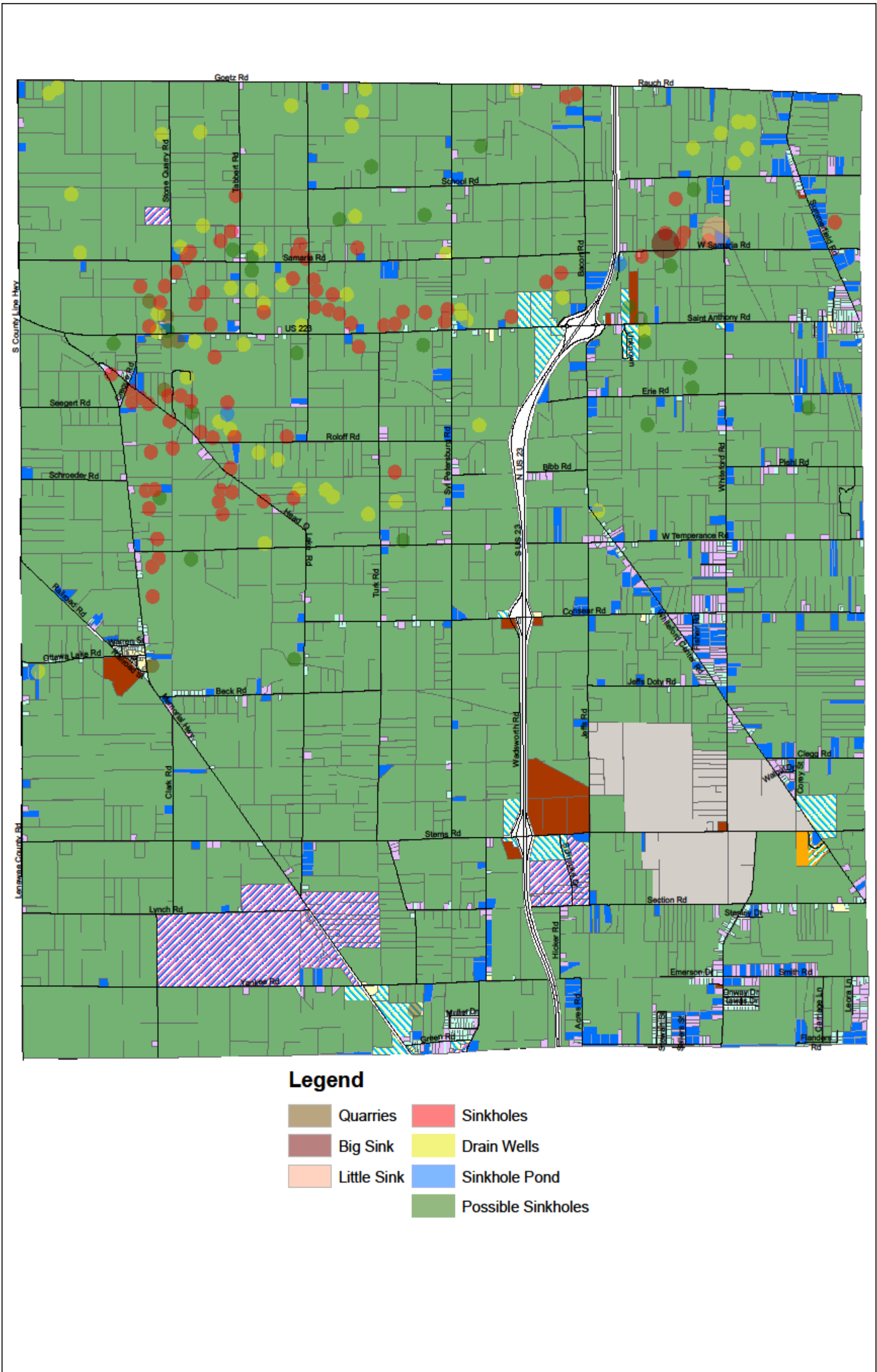


Figure 4 Monroe County Geology

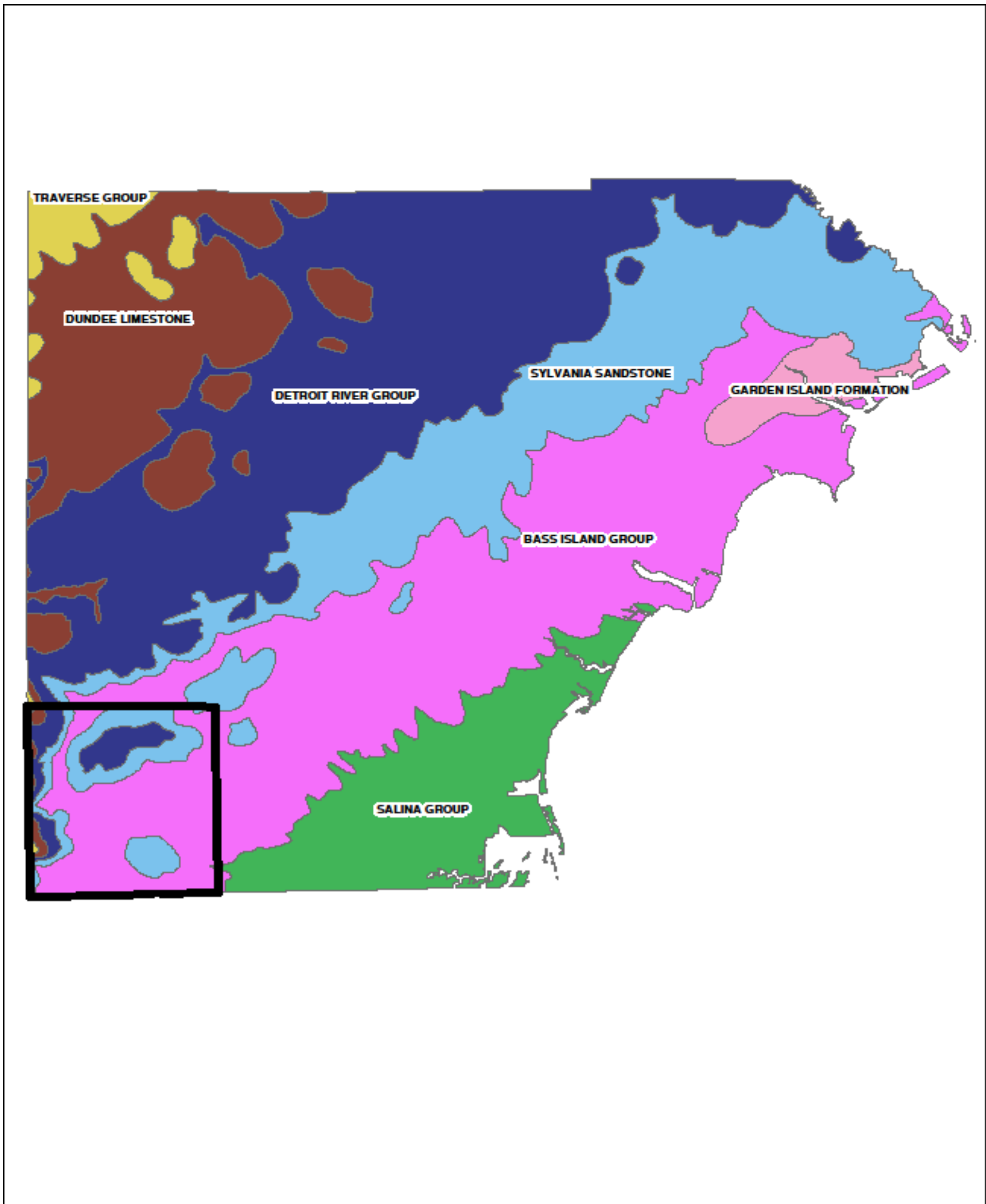


Figure 5 Large Parcels of Land

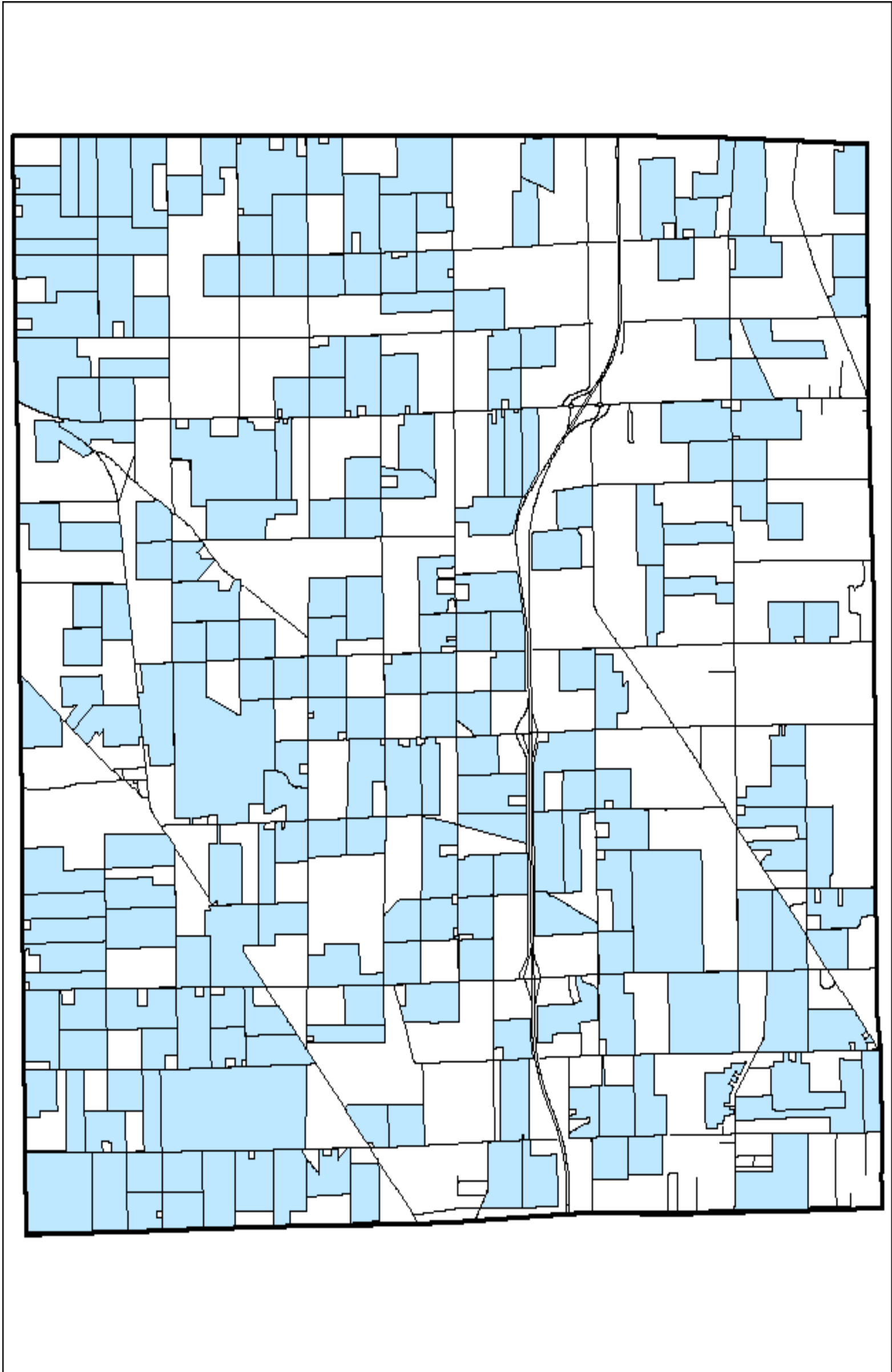


Figure 6 Existing Farmland

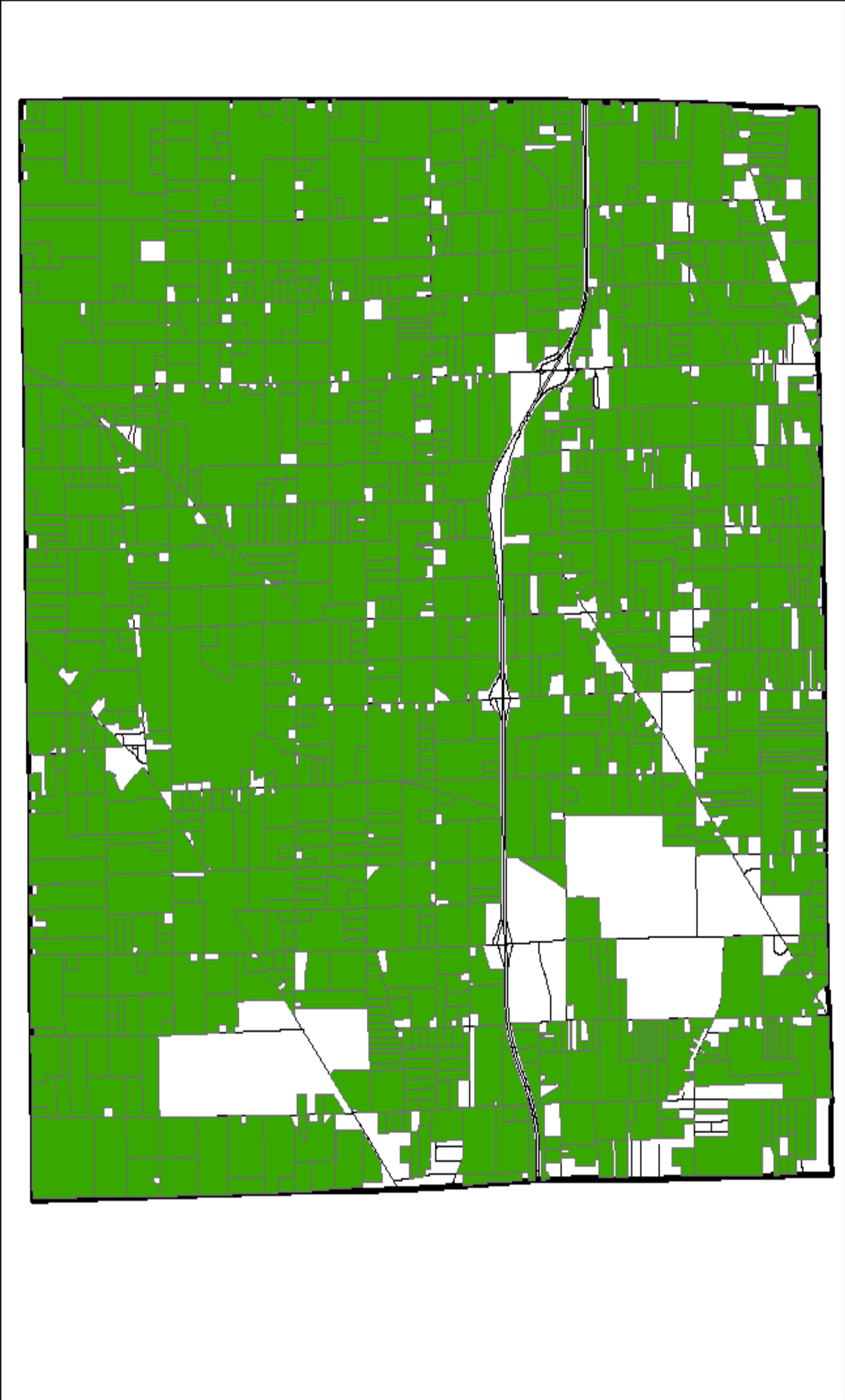
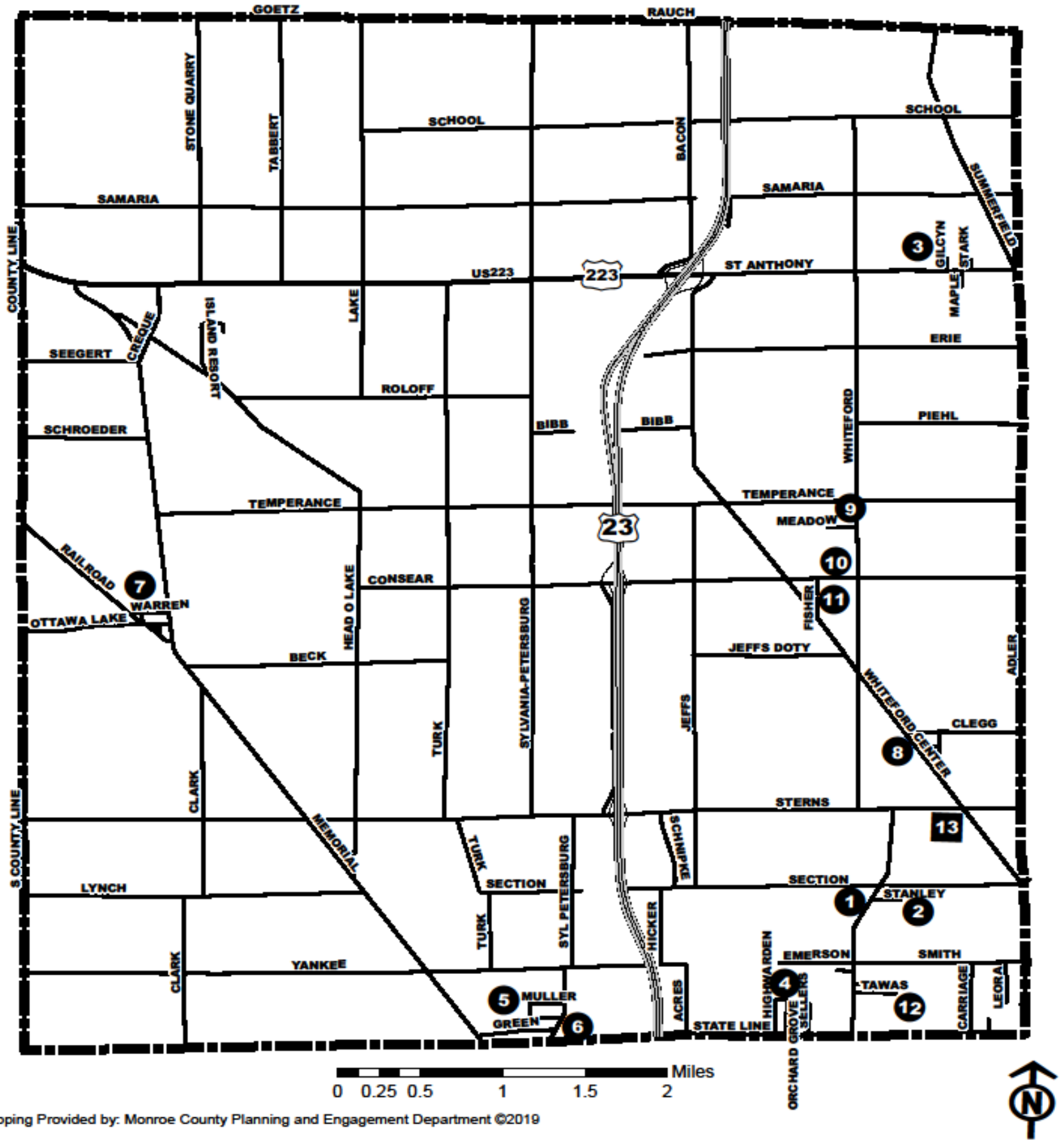


Figure 7 Platted Subdivisions and Multi-Family Developments

Platted Subdivisions & Multi-Family Developments



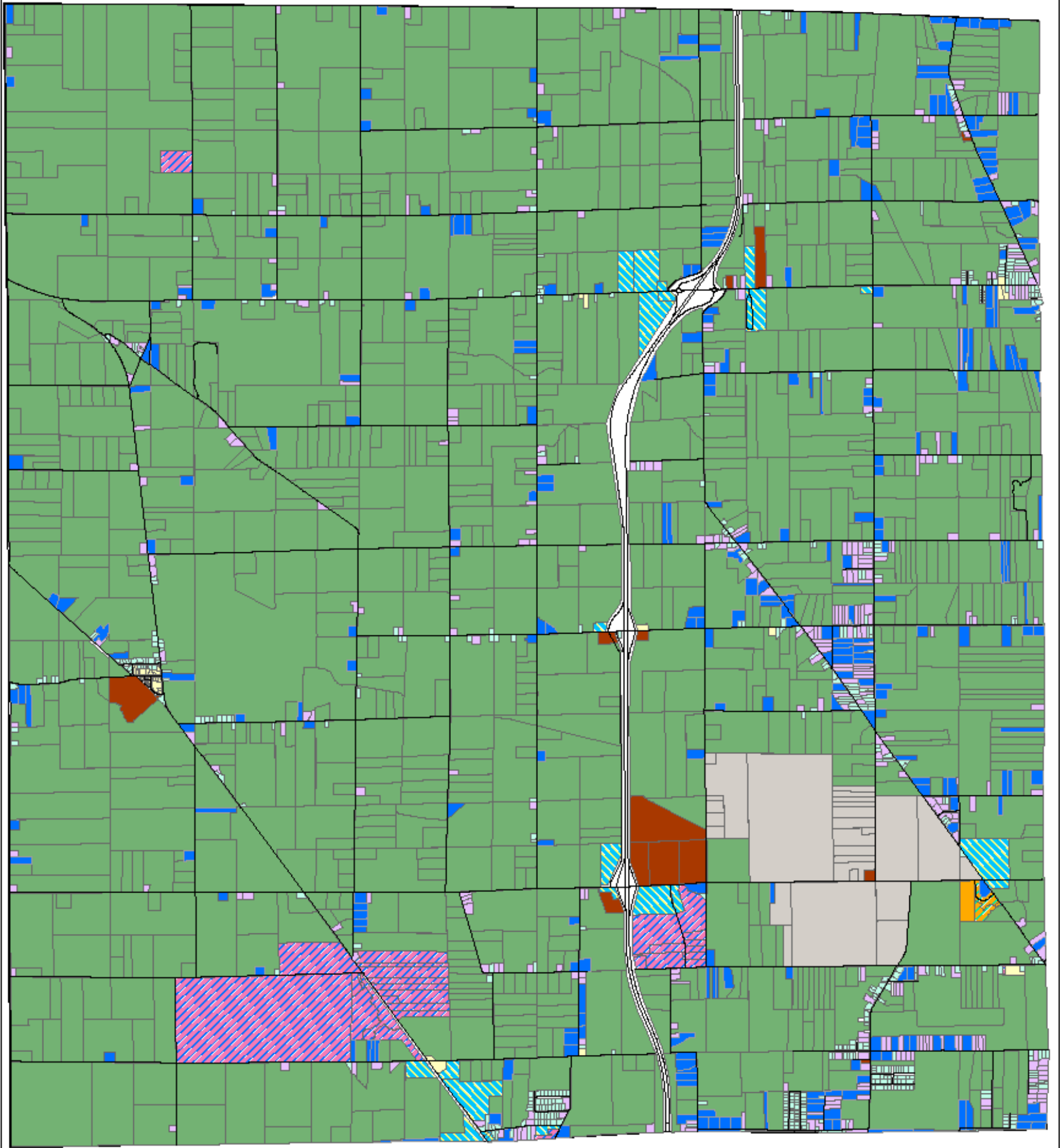
● Subdivisions:

- | | |
|--------------------------|--------------------------|
| 1. Baldwin Park | 7. Rothfuss Addition |
| 2. Homesite Acres | 8. Walnut Grove Place |
| 3. Michaelann Platt | 9. Whiteford Gardens |
| 4. Orchard Grove Place | 10. Whiteford Gardens #2 |
| 5. Ottawa Heights | 11. Whiteford Gardens #3 |
| 6. Ottawa Heights Plat 2 | 12. Wolverine Gardens |

■ Apartments:

13. Bedford Meadows

Figure 8 Existing Land Usage



Legend














- | | |
|--|---|
|  B-1 Local Business |  R-2 Low Density Res. |
|  B-2 General Business |  R-3 Medium Density Res. |
|  M-1 Limited Industrial |  R-4 High Density Res. |
|  M-2 General Industrial |  R-5 Multi. Family Res. |
|  AG Agricultural |  PUD Planned Unit Dev. |
|  EX Extractive |  TND Trad. Neighborhood Dev. |
|  R-1 Single Family Rural Res. | |

Figure 9 Parcels within Water Districts

Whiteford Township Parcels within Water Districts 1A & 1B

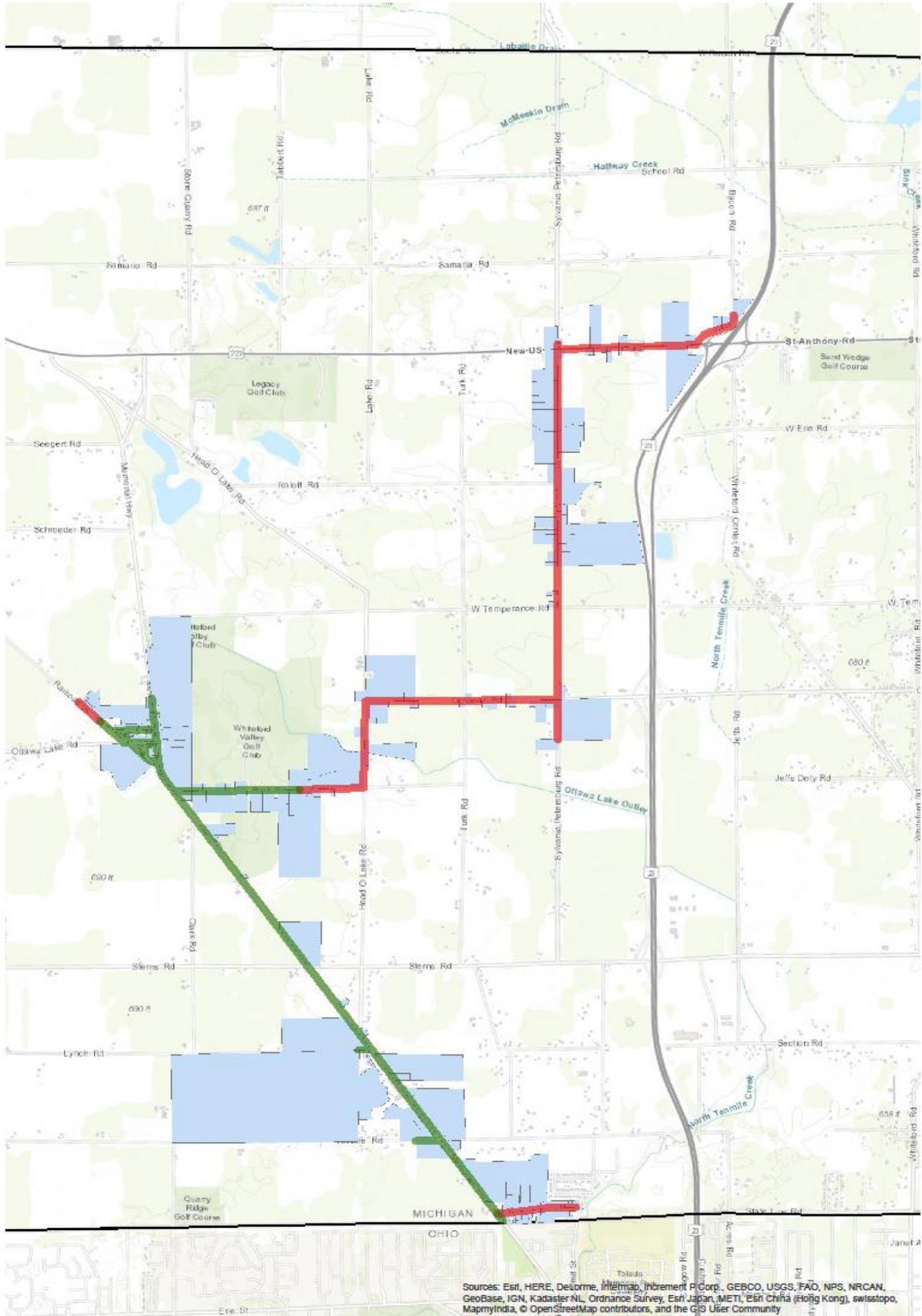


Figure 10 Existing Residential Land Use

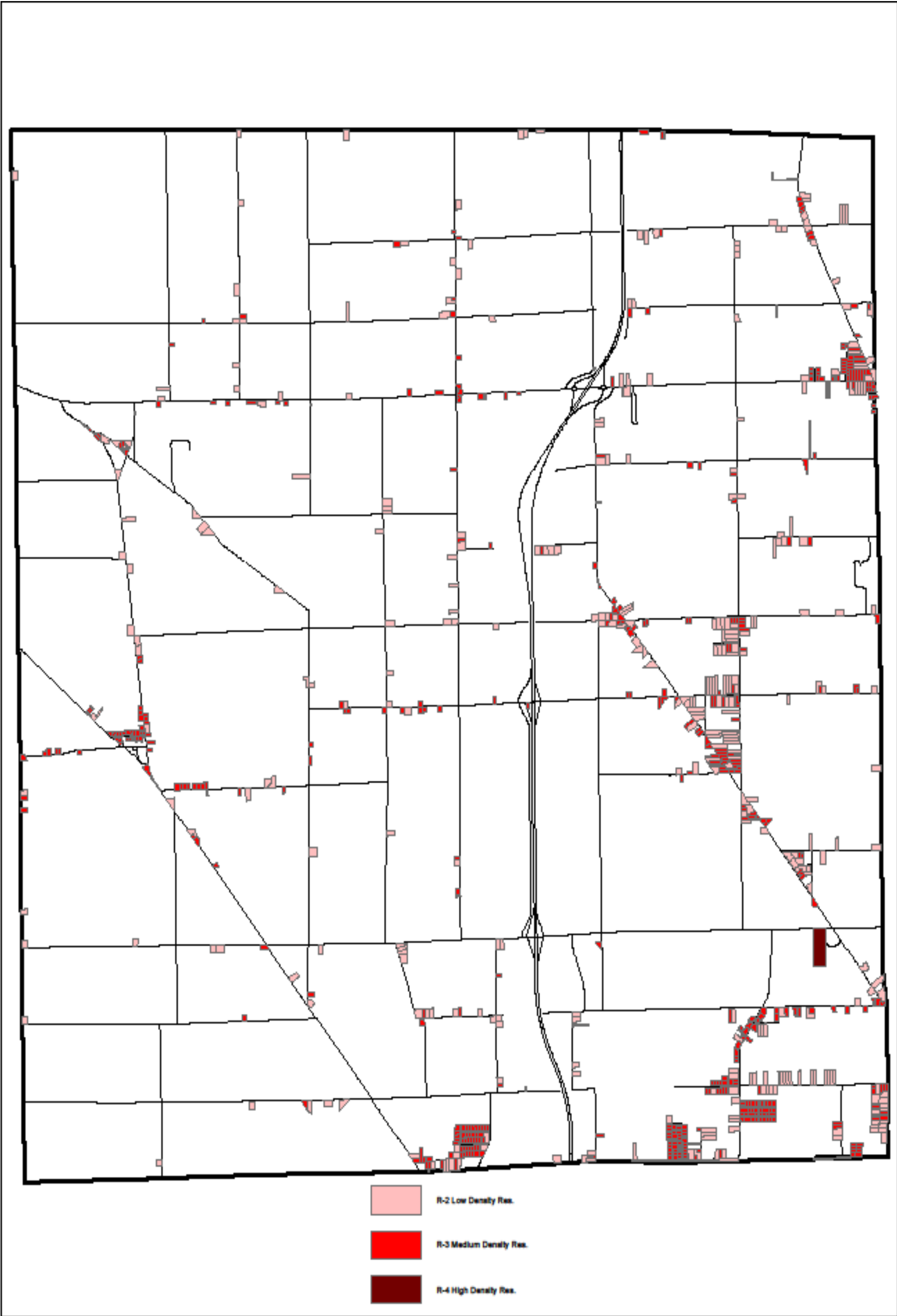


Figure 11 Existing Commercial Land Usage

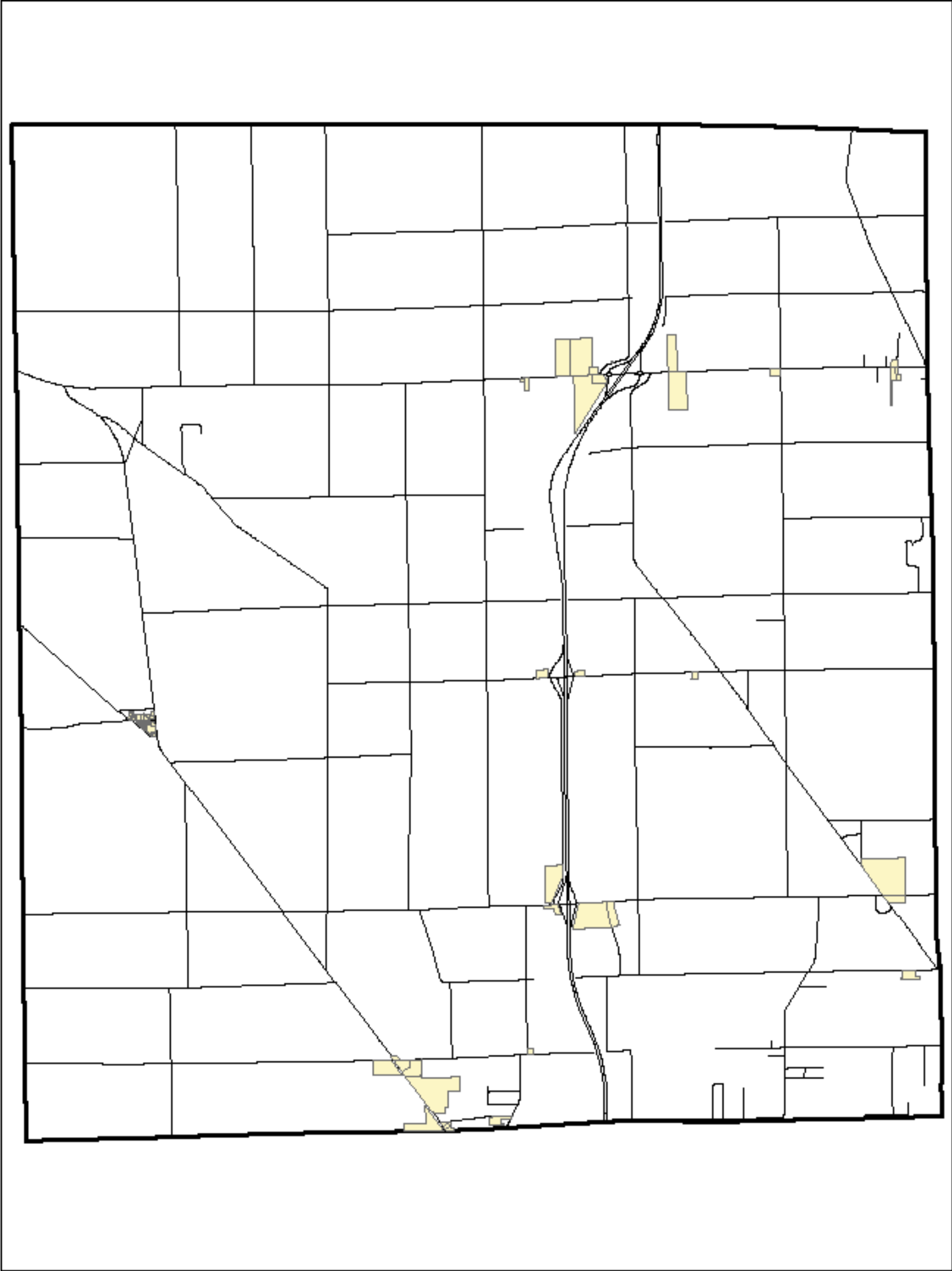


Figure 12 Existing Industrial Land Usage

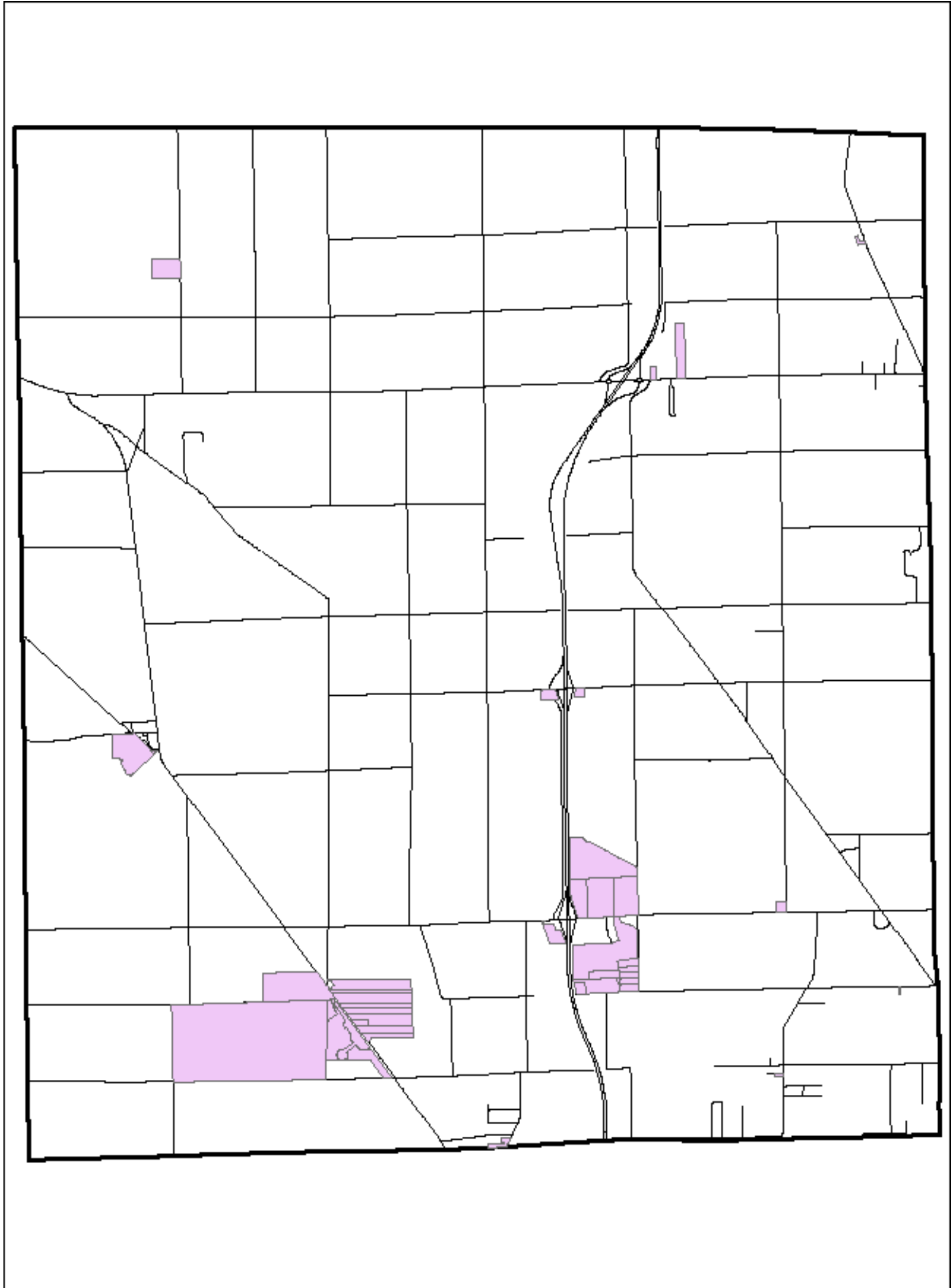


Figure 13 Recreation, Education and Open Space Land Usage

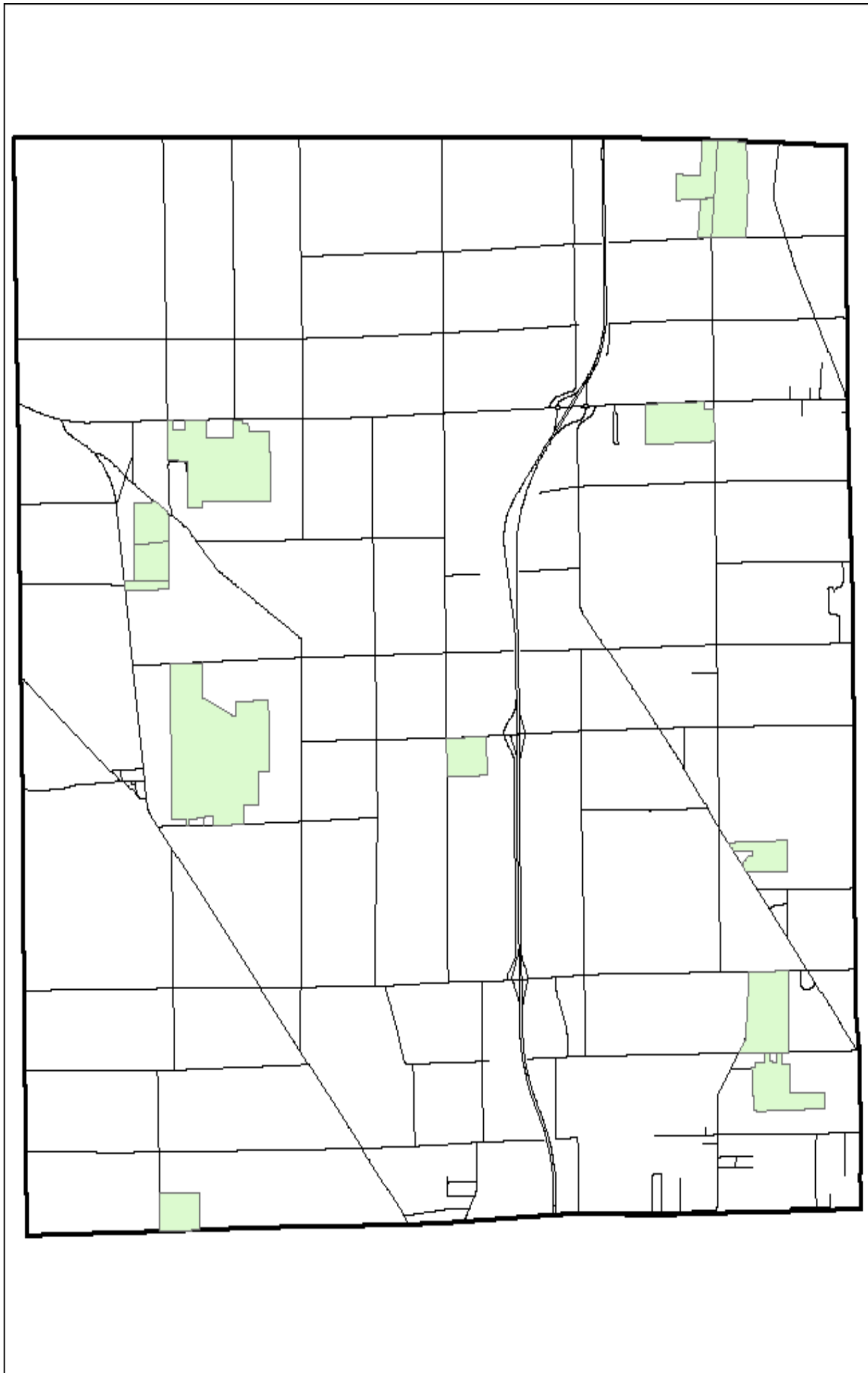


Figure 14 Drainage system Land Usage

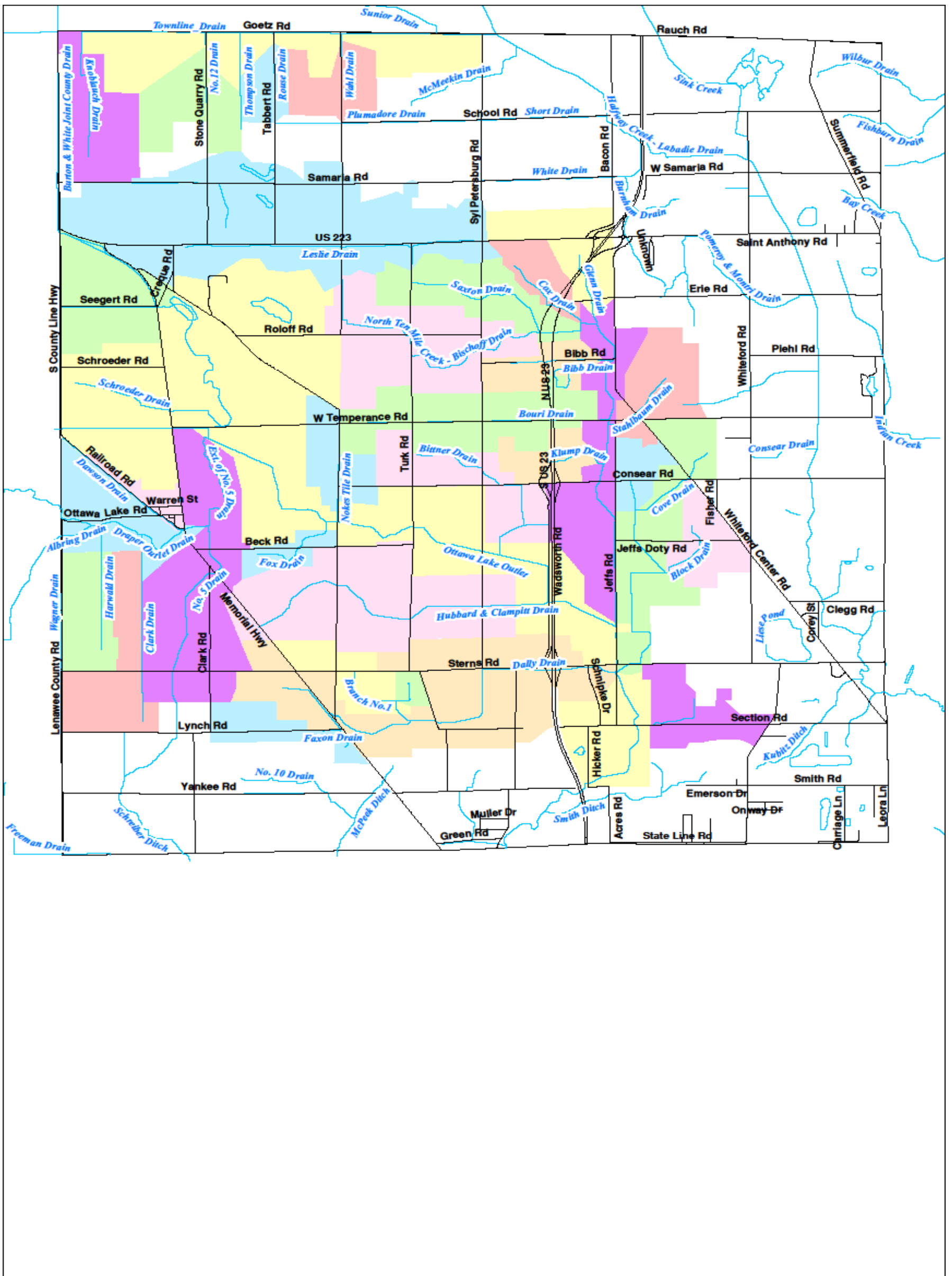


Figure 15 Proposed and Existing Sewer Service Area

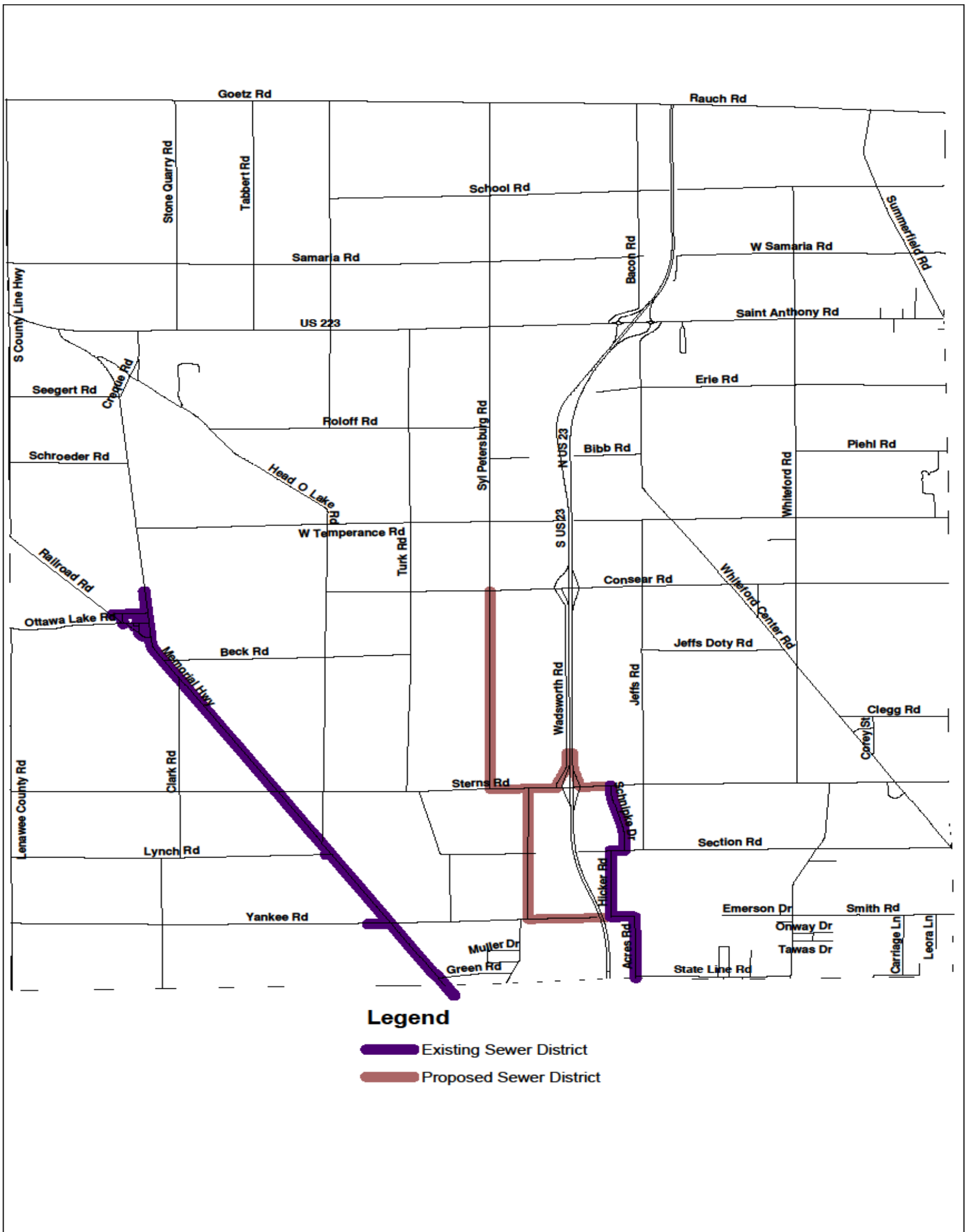
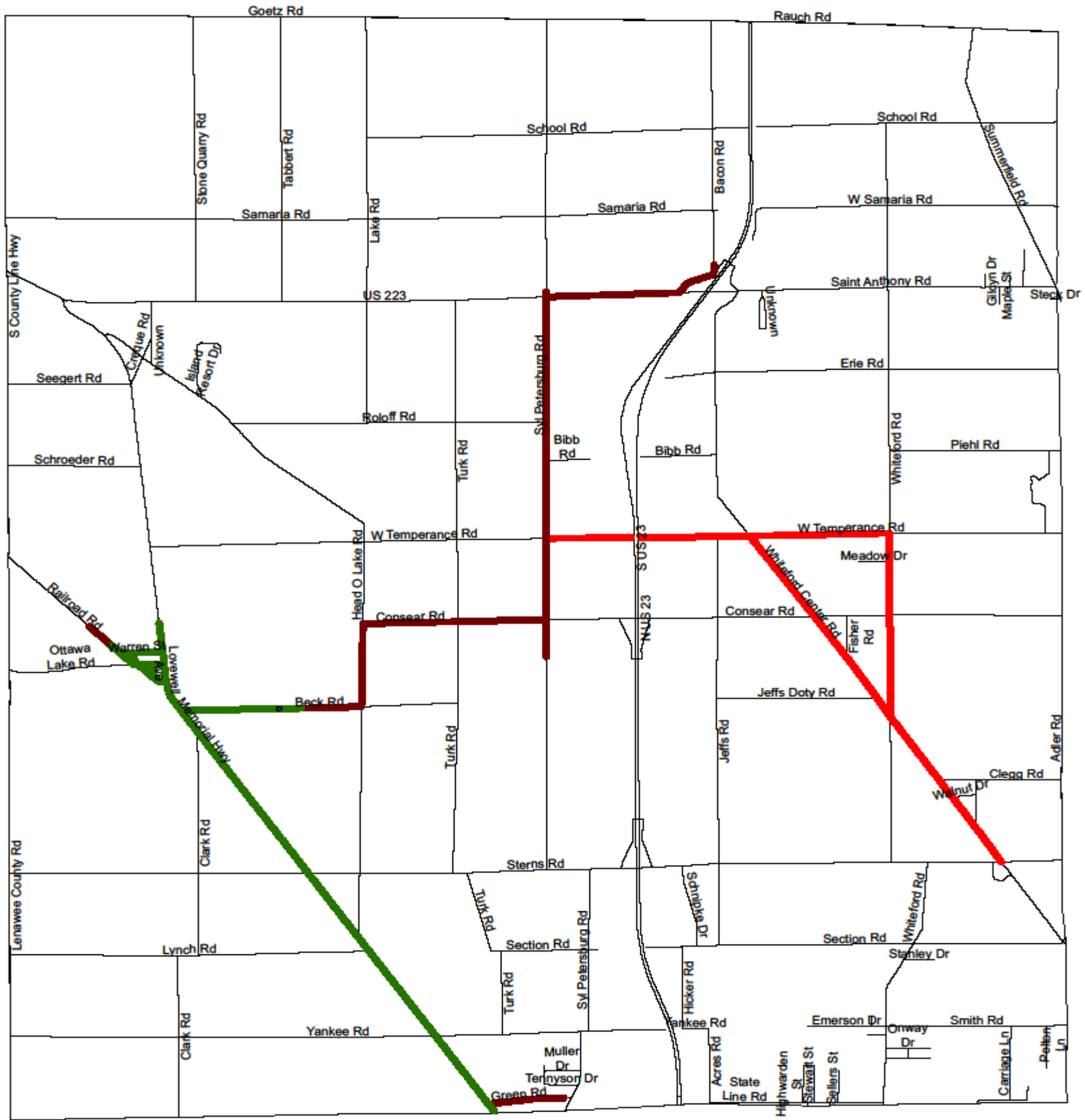


Figure 16 Proposed and Existing Water Loops



Legend

- Water District 1A
- Water District 1B
- Proposed Water District 1C

Figure 17 Graphical Representation of the Beck Road Water Treatment Plant

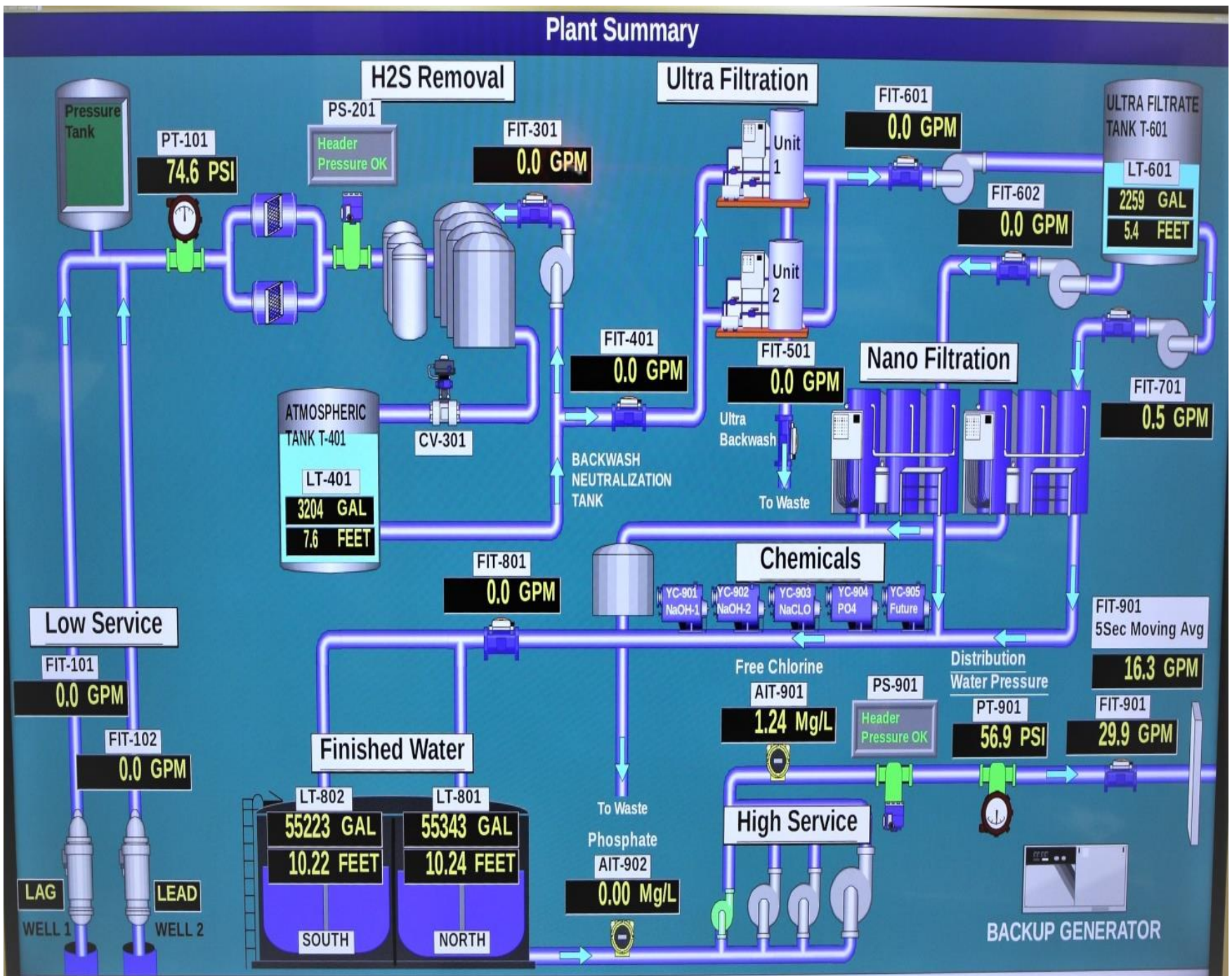
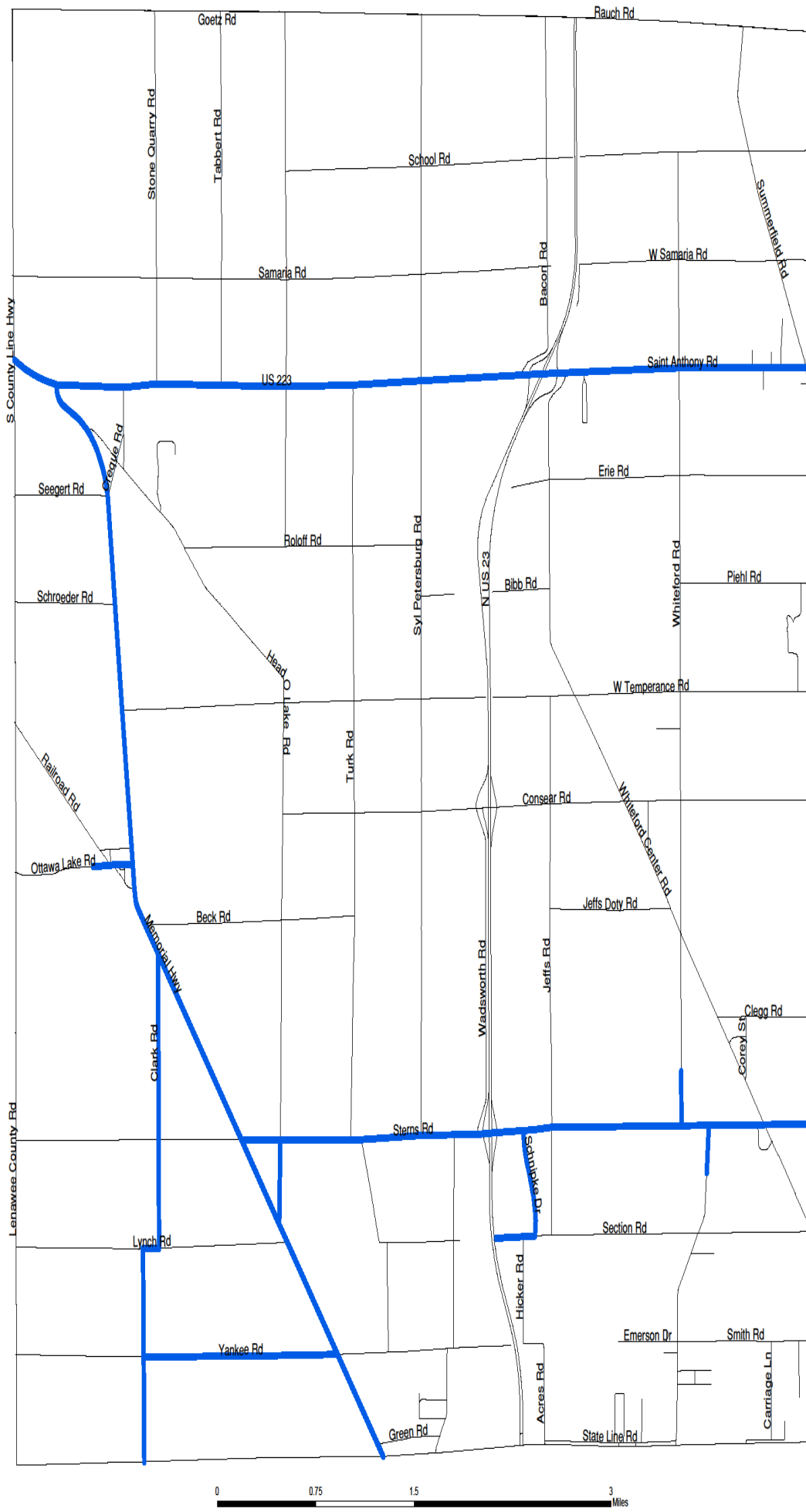


Figure 18 Whiteford Township Truck Route Map



Whiteford Township Truck Route Map Monroe County, Michigan



Whiteford Township
Monroe County, Michigan



DAVID
ARTHUR
CONSULTANTS, INC.
110 MAIN STREET, DUNDEE, MI 48121
PH: (734) 823-5060

Figure 19 Whiteford Township Future Land Use Plan

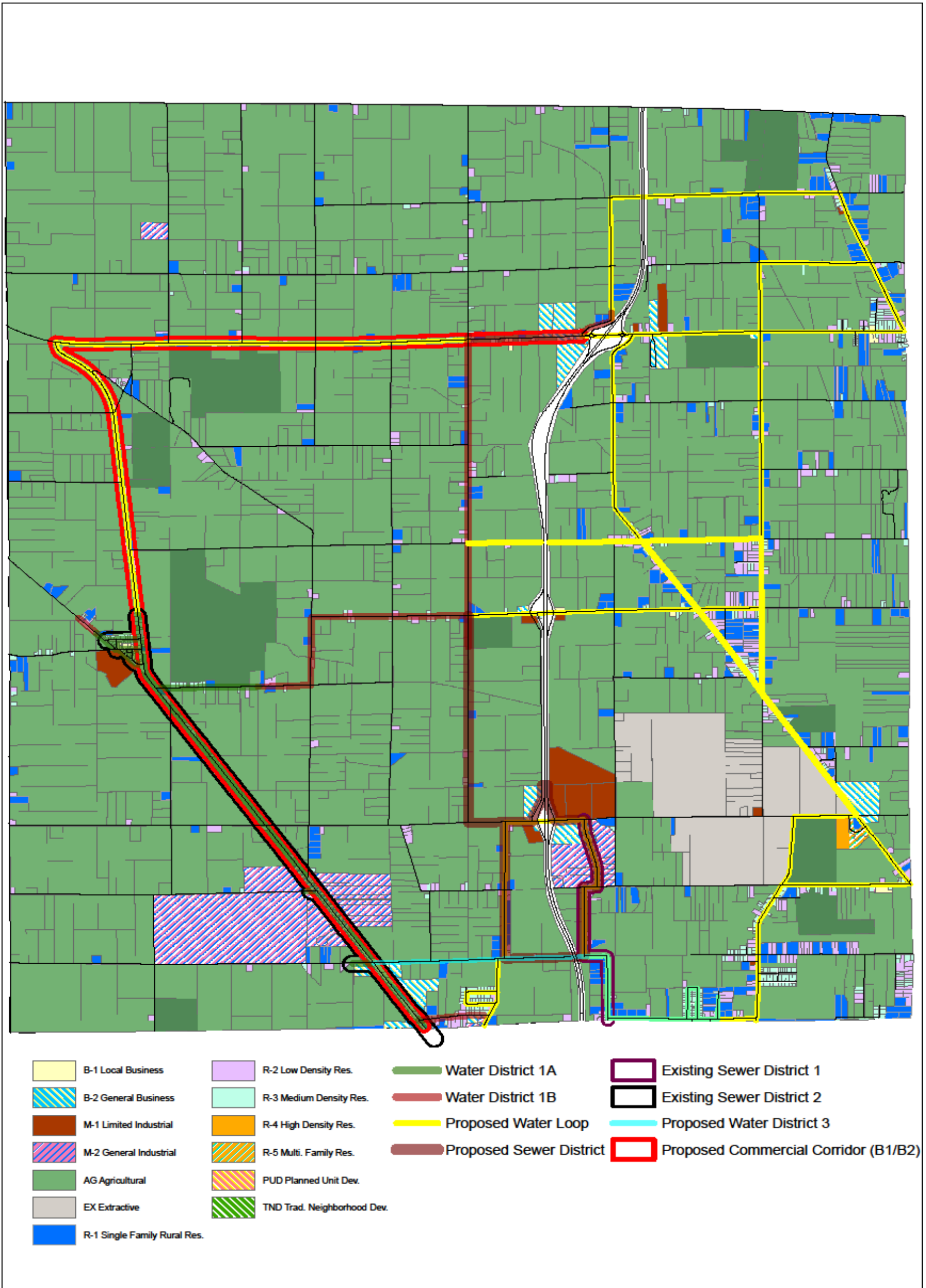


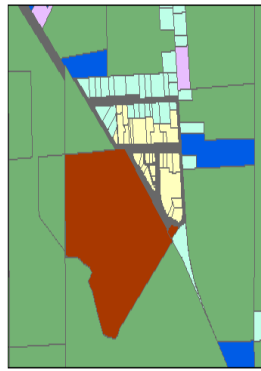
Figure 20 Zoning Land Usage

Whiteford Township Zoning Map

Whiteford, Michigan

Zones

Business	Residential
B-1 Local Business	R-1 Single Family Rural Res.
B-2 General Business	R-2 Low Density Res.
Industrial	Resource
M-1 Limited Industrial	AG Agricultural
M-2 General Industrial	EX Extractive
R-3 Medium Density Res.	Other
R-4 High Density Res.	PUD Planned Unit Dev.
R-5 Multi. Family Res.	TND Trad. Neighborhood Dev.



Ottawa Lake Detail

I, Angela Christensen, Whiteford Township Clerk, do hereby certify that this is a true copy of the map adopted by the Whiteford Township Board, on the ___ day of ___, 20___ as well as those amendments made as of the revision date.

Angela Christensen, Whiteford Township Clerk

Revisions	Date	ID	Initials
AG to R1 Rural Residential	4/18/2017	5815-001-046-40	DDR
AG to R1 Rural Residential	4/18/2017	5815-001-046-30	DDR
AG to R1 Rural Residential	4/18/2017	5815-001-046-20	DDR
AG to R1 Rural Residential	4/18/2017	5815-030-005-10	DDR
AG to R1 Rural Residential	4/18/2017	5815-015-013-20	DDR
AG to R1 Rural Residential	4/18/2017	5815-015-013-30	DDR
AG to R1 Rural Residential	4/18/2017	5815-012-079-10	DDR
R3 to B1 Local Business	11/21/2017	5815-010-031-00	DDR

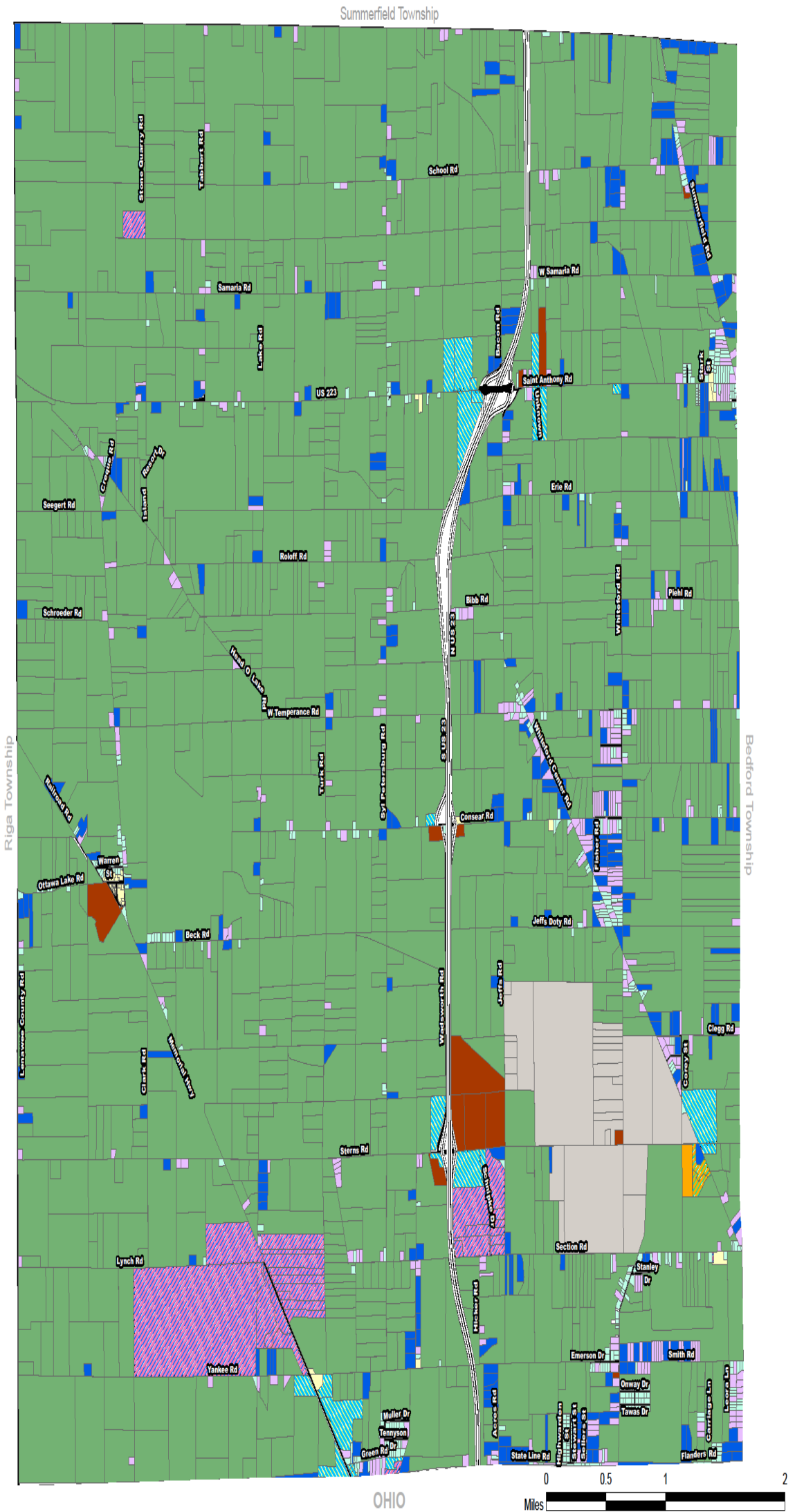


Figure 21 R 1 Single Family Rural Residential Housing

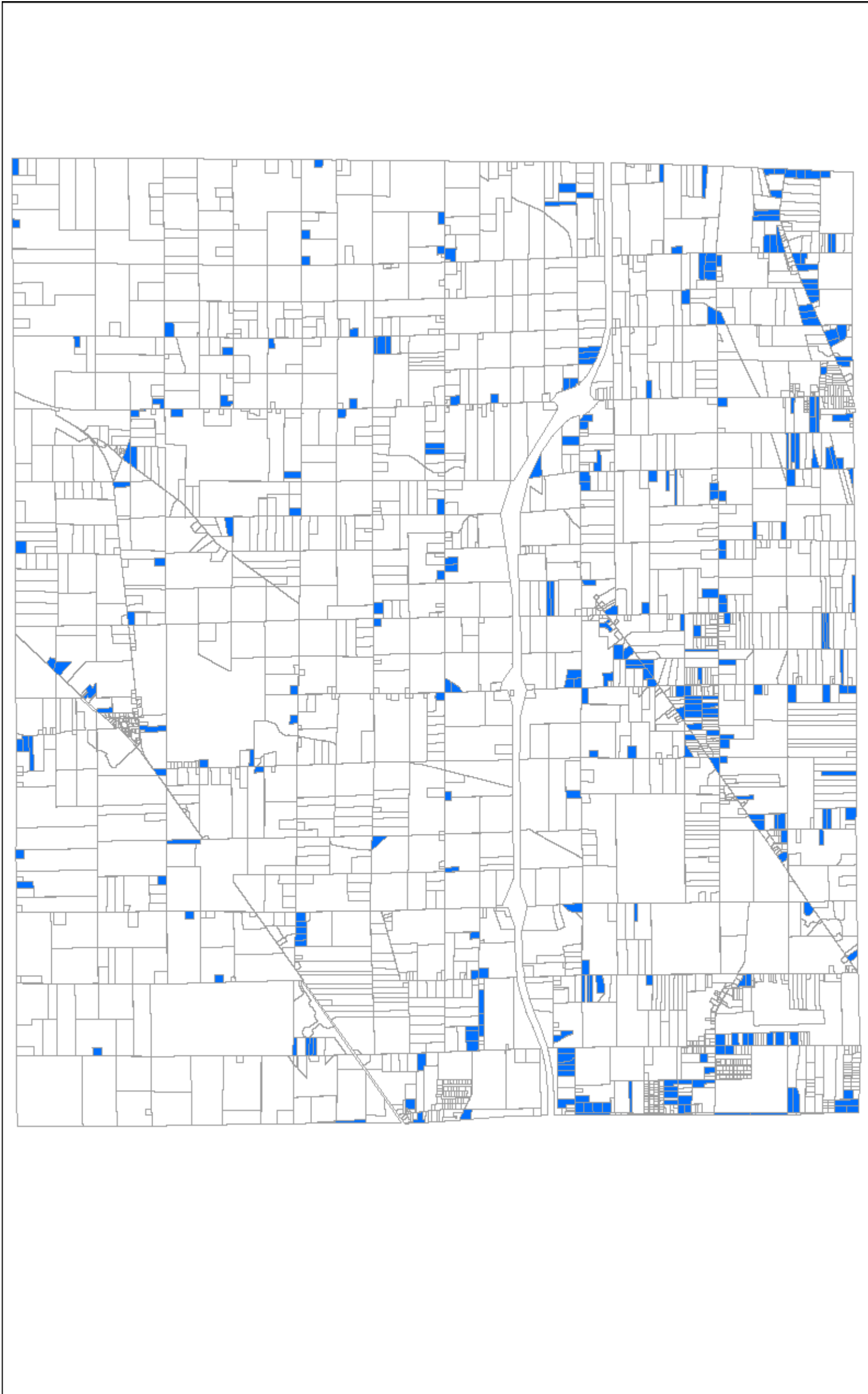


Figure 22 R-2 Low Density Residential

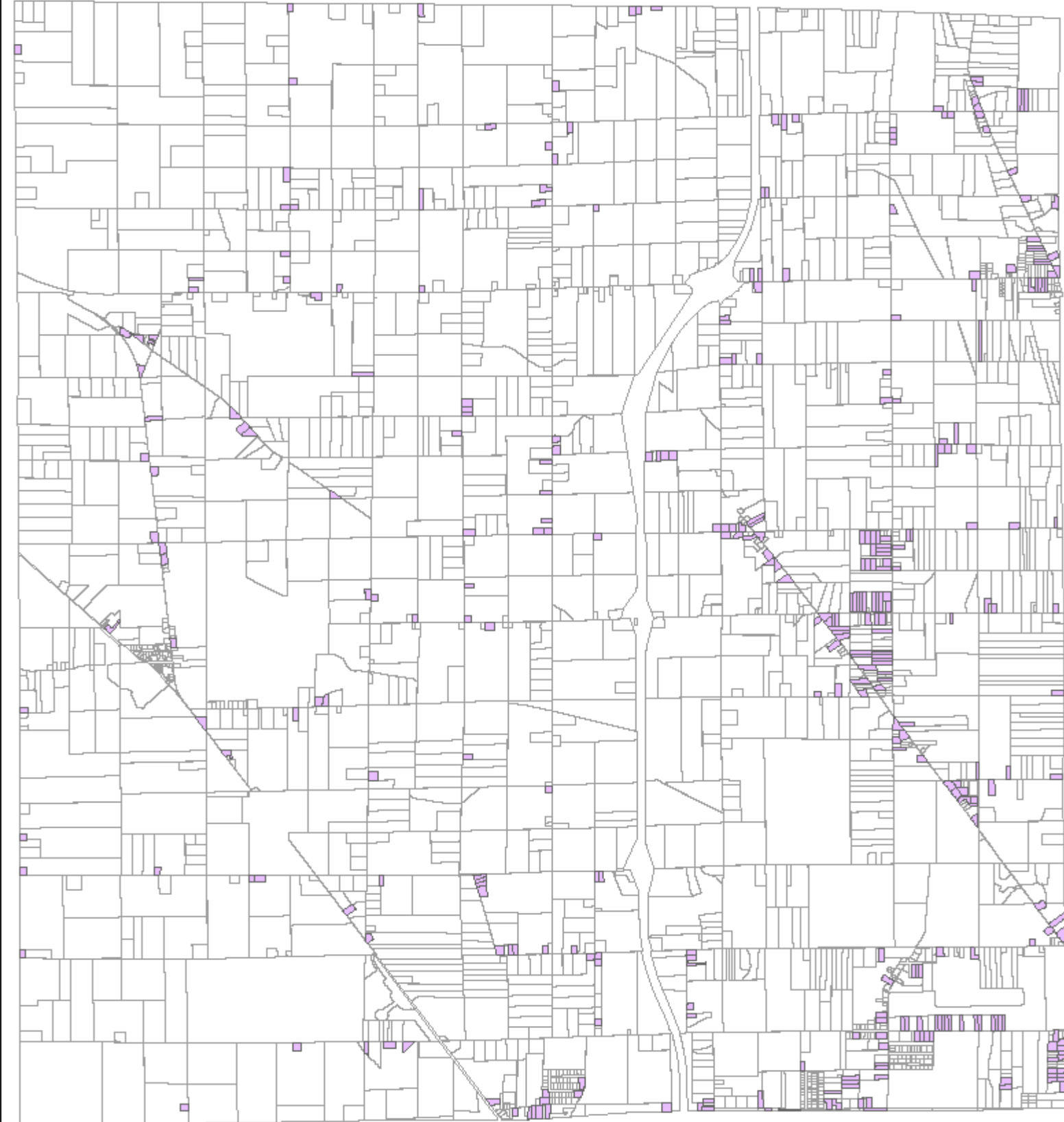


Figure 23 R-3 Medium Density Residential

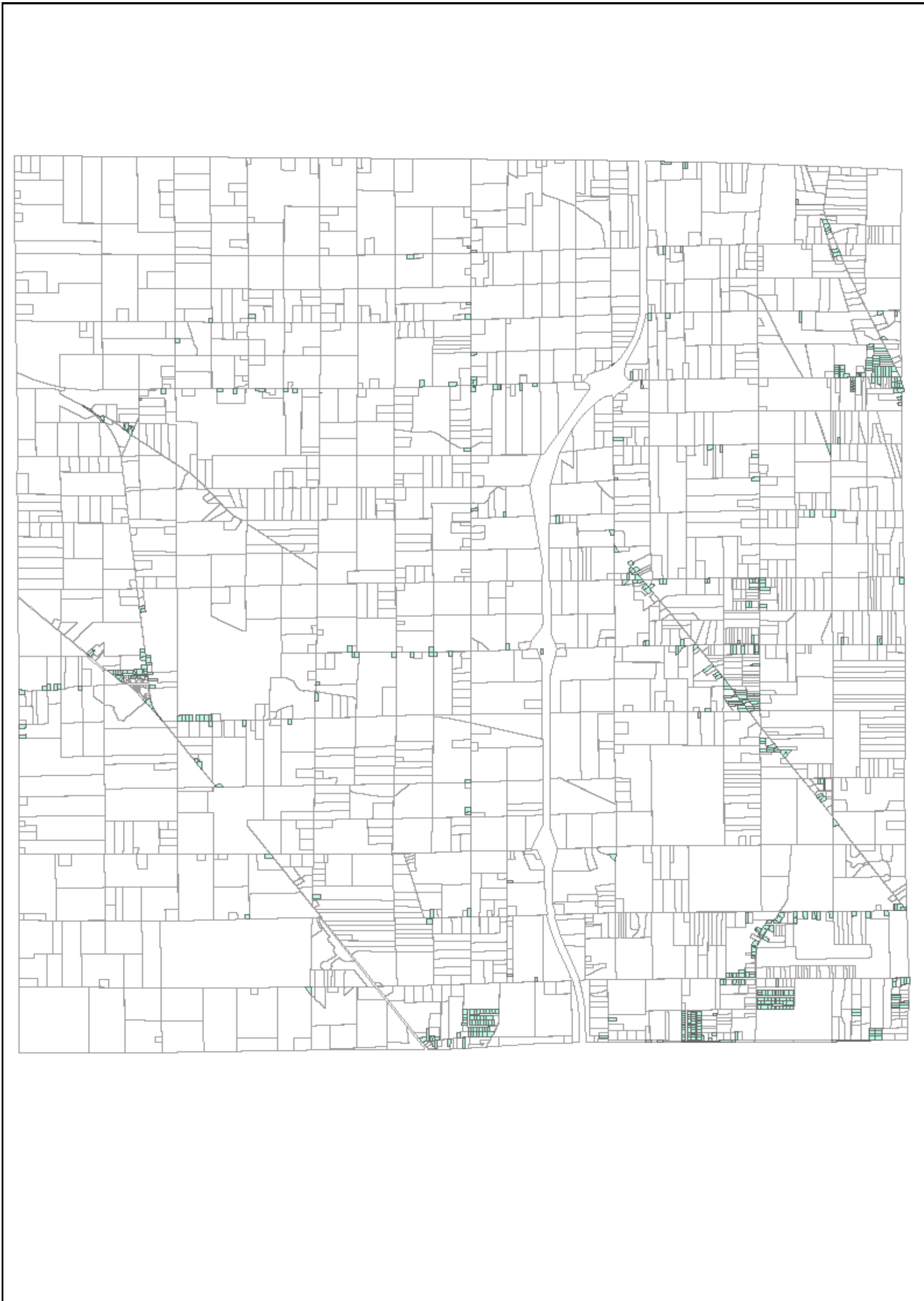


Figure 24 R-4 High Density Residential

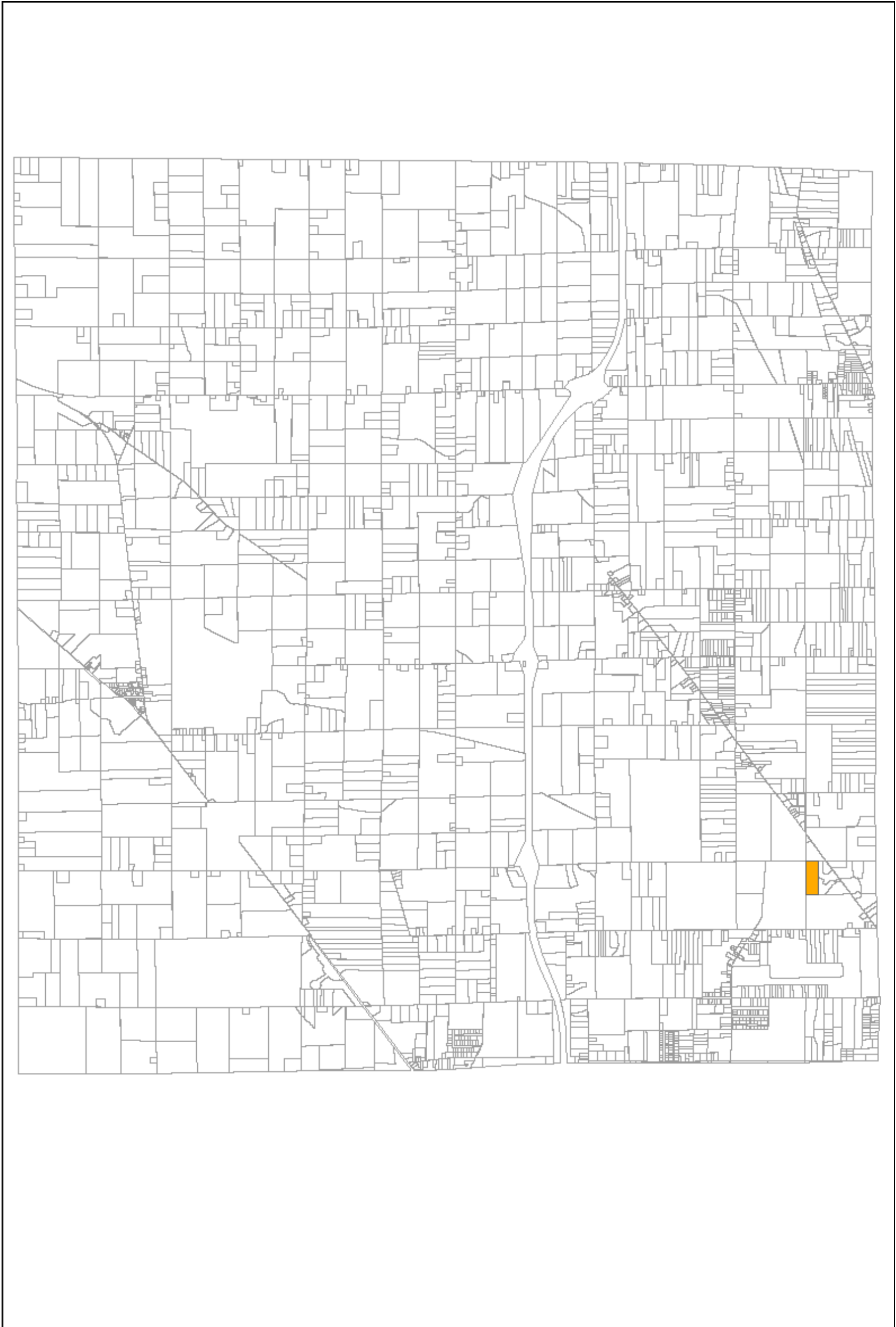


Figure 25 R-5 High Density Residential

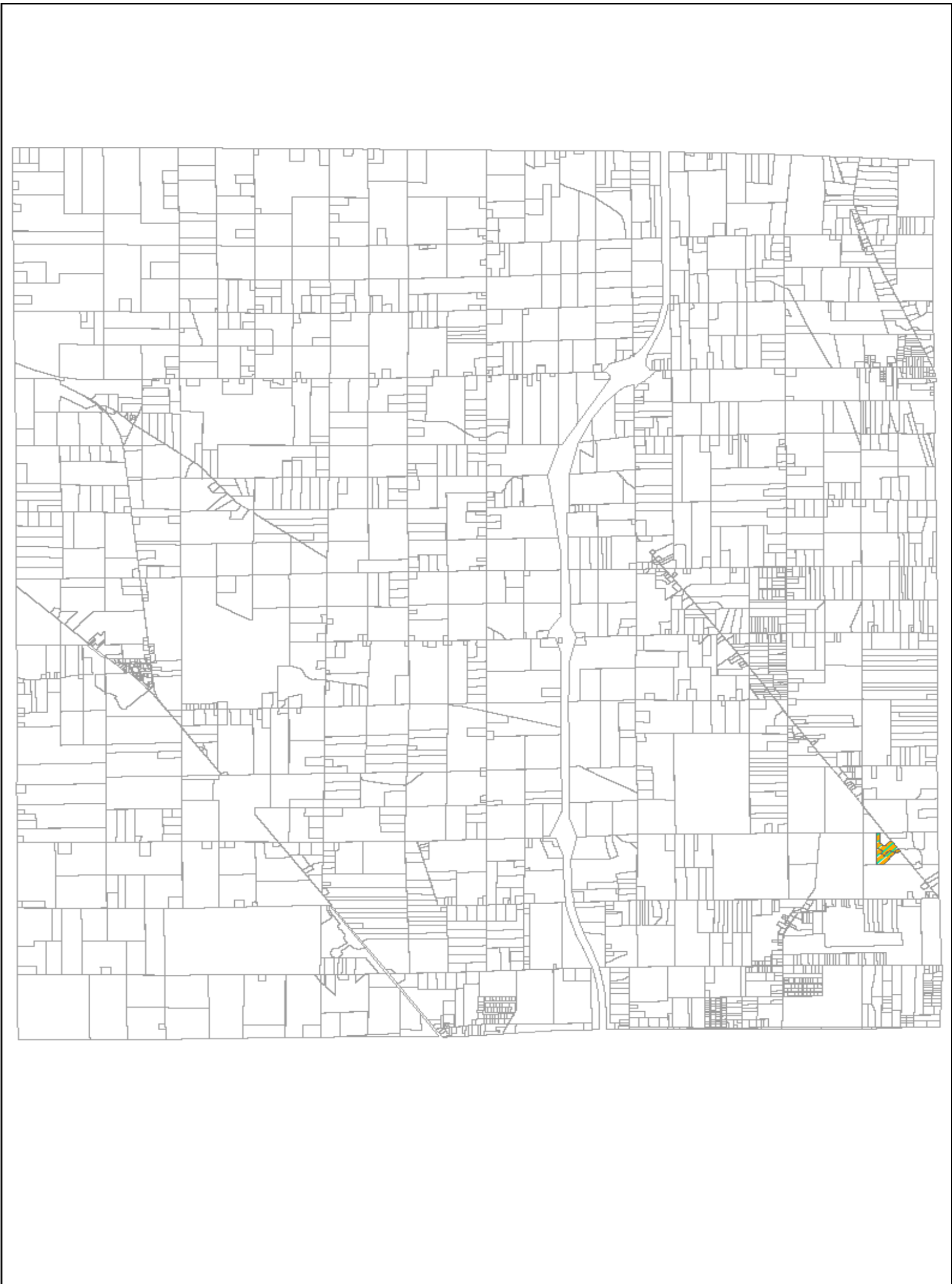


Figure 26 Commercial Zones

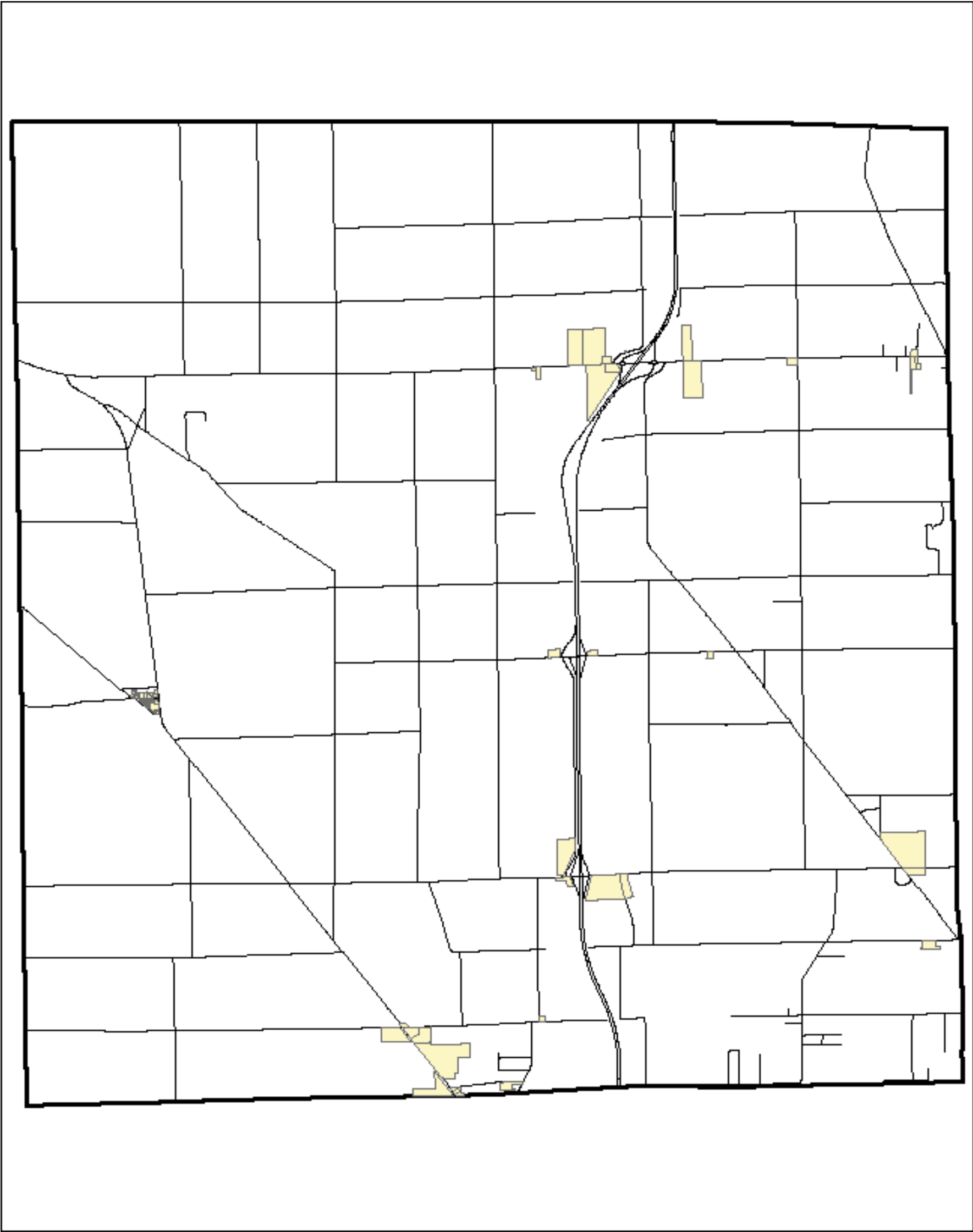


Figure 27 Industrial Zones

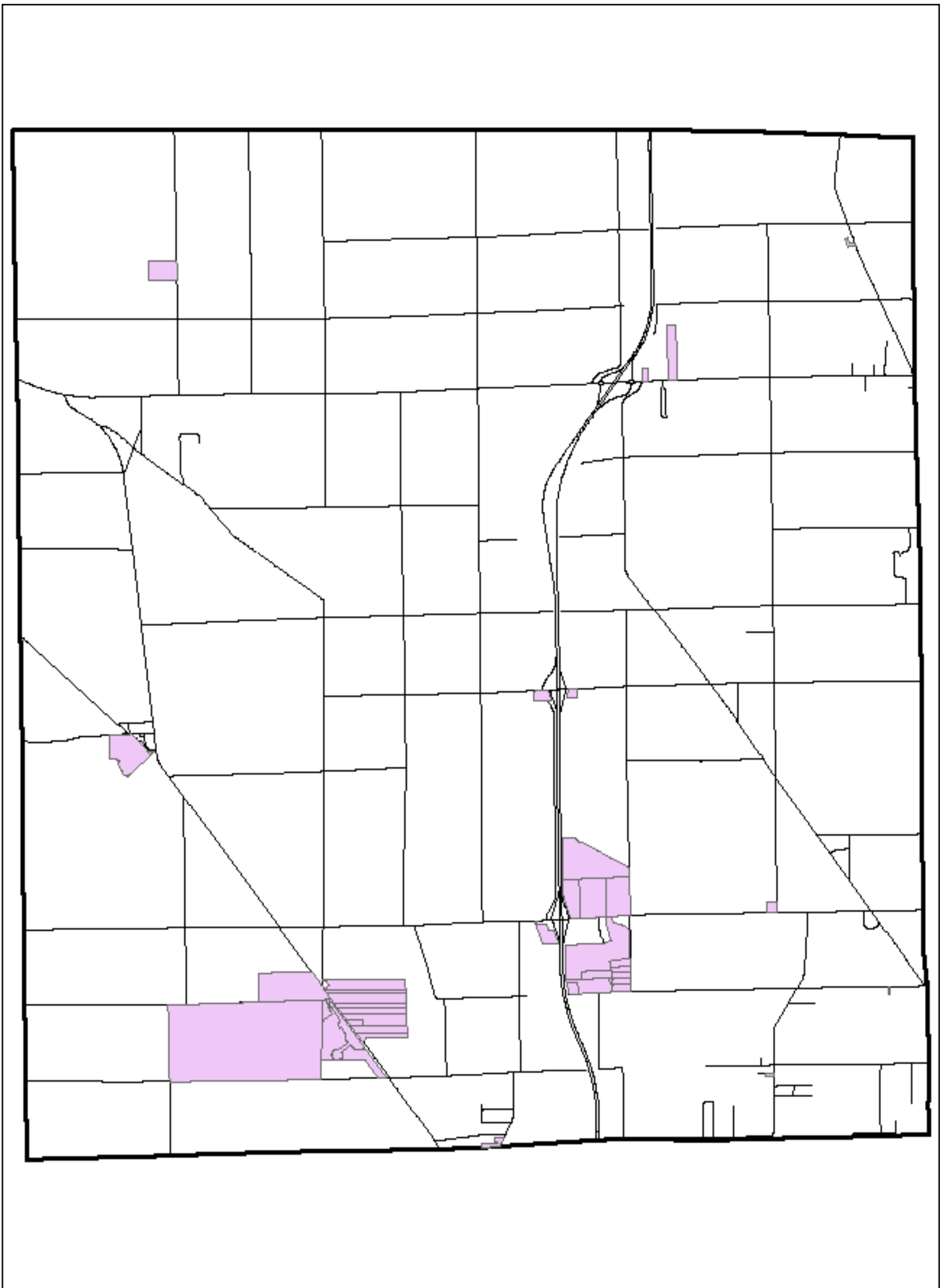
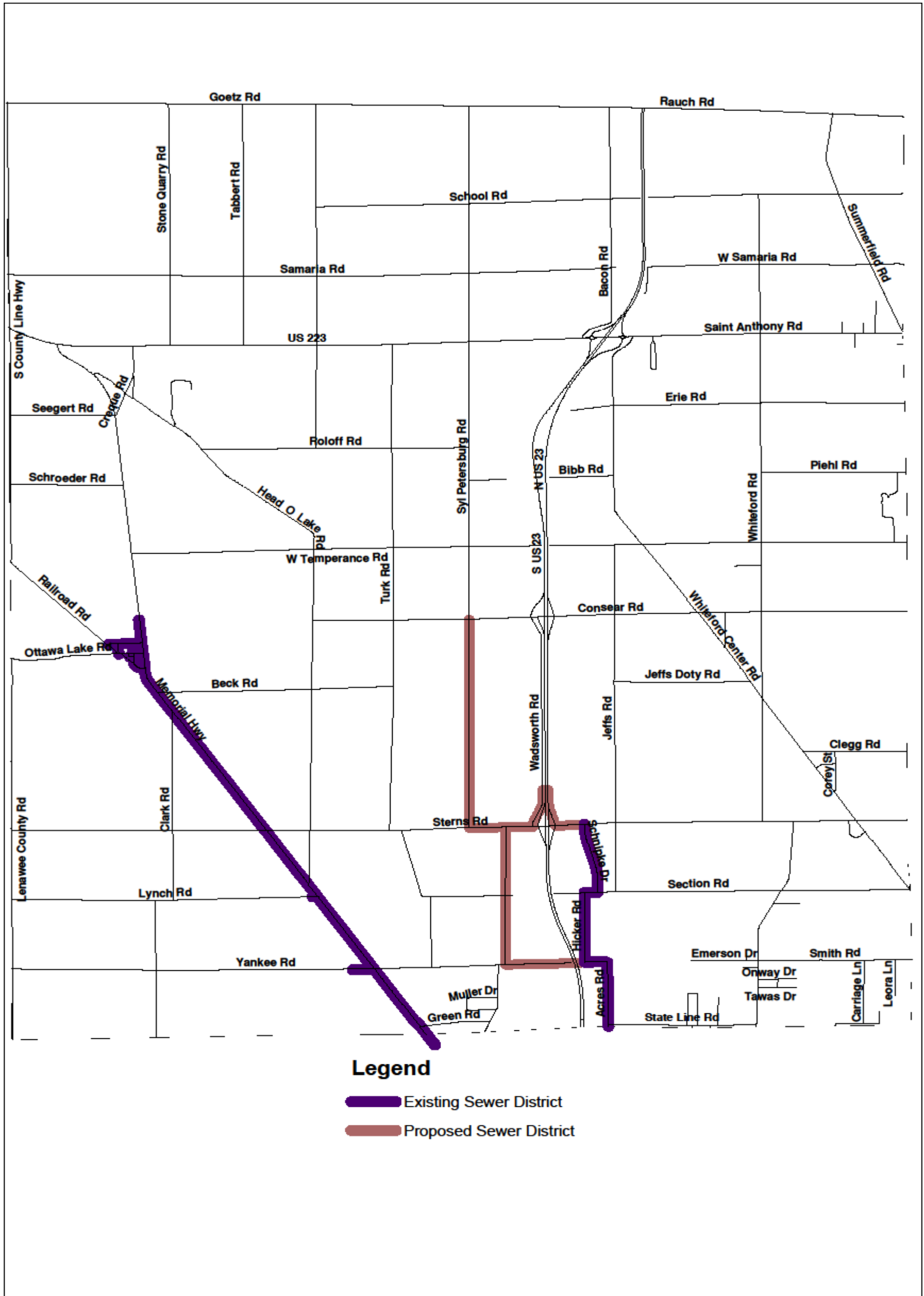


Figure 28 Existing and Proposed Sewer Districts



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