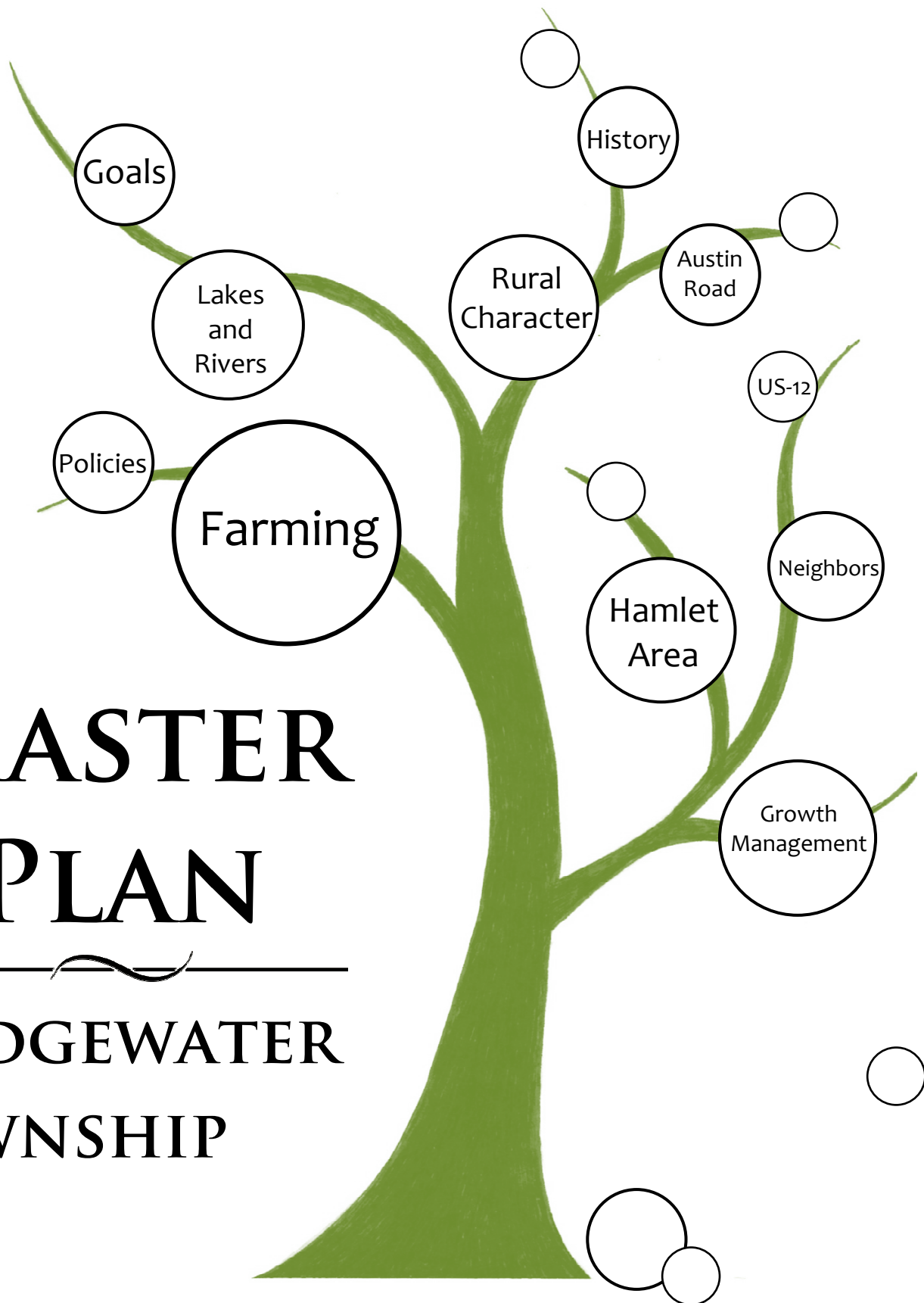


MASTER PLAN

BRIDGEWATER
TOWNSHIP



BRIDGEWATER TOWNSHIP MASTER PLAN

PREPARED BY THE
BRIDGEWATER TOWNSHIP
PLANNING COMMISSION

The Township Planning Commission originally adopted this Master Plan in 2001, with additional amendments adopted in 2006.

In 2013, the Planning Commission determined that updates were needed for several existing elements of the plan, including but not limited to "Goals, Objectives, and Policies" and the "Land Use Plan." The Commission also determined that a more detailed "Bridgewater Hamlet Area Plan" should be included in the updated document.

2013 – 2014 Update Milestones:

Planning Commission Public Hearing September 8, 2014

Adopted by the Planning Commission.....October 13, 2014

Final Approval by the Township Board..... November 6, 2014

ACKNOWLEDGMENTS

TOWNSHIP BOARD OF TRUSTEES:

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David Faust, Trustee
Geoffrey Oliver, Trustee

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Chapter 1 INTRODUCTION

Following this introduction and a brief overview of the elements of this Master Plan is a geographic description and brief history of Bridgewater Township, along with observations about the future of the Township. These materials provide a context for the balance of the Plan.

AUTHORITY TO PLAN UNDER STATE STATUTES

Michigan Planning Enabling Act

On March 13, 2008, the Governor signed into law Public Act 33, which is the new Michigan Planning Enabling Act (MPEA). This Act replaced the former Township Planning Act (as well as the municipal and county planning acts) and became effective September 1, 2008. The new MPEA consolidated and updated planning provisions from all three existing Michigan planning enabling acts.

Michigan Zoning Enabling Act

In addition to serving as the Master Plan for the Township, this is also intended to be the plan referred to in the Michigan Zoning Enabling Act (Public Act 110 of 2006, as amended) as the basis for and foundation of the Bridgewater Township Zoning Ordinance. The required zoning plan elements are found in the "Zoning Plan" chapter of the Master Plan, and the following separate special plan elements and sub-area plans are also part of this plan:

- Bridgewater Hamlet Area Plan

WHY HAVE A MASTER PLAN FOR THE TOWNSHIP?

This Master Plan is intended to be a policy blueprint for the future of Bridgewater Township. It includes both a clear statement of the community's vision of the future, and plans to achieve that vision. Per Section 7 of the Michigan Planning Enabling Act, the purpose of the Master Plan is to guide decision-making of the Planning Commission and Township Board related to land use, community development, and capital improvement projects, and to help create a land use pattern that:

- Is coordinated, adjusted, harmonious, efficient, and economical.
- Considers 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.
- Will, in accordance with present and future needs, best promote public health, safety, morals, order, convenience, prosperity, and general welfare.
- Includes, among other things, promotion of one or more of the following:
 - System of transportation to lessen congestion on streets.
 - Safety from fire and other dangers.
 - Light and air.
 - Healthful and convenient distribution of population.
 - Good civic design, and wise and efficient expenditure of public funds.
 - Public utilities such as sewage disposal, water supply, and other improvements.
 - Recreation, and the use of resources in accordance with their character and adaptability."

It is a comprehensive document, long-range in its view, and intended to guide development in the Township over the next ten to twenty years. The Master Plan identifies specific goals and objectives, and establishes detailed public policy recommendations regarding land use and future growth. The information and concepts presented in the Master Plan are intended to guide local decisions on both public and private uses of land, as well as the provision of public facilities.

It is not the intent of this plan to entitle a property owner to a zoning change consistent with a future land use designation in this plan, especially where the infrastructure or public services necessary for such development are not present. Such decisions will be made on a case-by-case basis at the time the question arises, and within the context of this plan, applicable zoning ordinance provisions, and other applicable regulations.

Relationship to Past Plans and Changing Conditions

This Master Plan builds on the foundations of previous Township plans, including the "general development plan" adopted in 1992, and the most recent master plan adopted in 2001 and amended in 2006. Much of the 2001 Plan remains pertinent today, and has been retained.

The Planning Commission recognizes that the future remains uncertain, and that current perceptions of future conditions will change. The major issues of concern raised in this plan may also change over time, requiring strategies and policies appropriate to respond to them to be modified or replaced. The Commission intends to review this plan regularly, and to refine, add to or otherwise modify the Master Plan as necessary to meet changing conditions in the future.

PLANNING AREA

Location

Bridgewater Township is 35.6 square miles located near the southwest corner of Washtenaw County (see Map 1). It is located between the City of Saline to the east, Village of Manchester to the west, and the Village of Clinton to the south. The north-south M-52 corridor is located just to the west, and US-12 cuts across the southeast quarter of the Township. The River Raisin runs through the western part of the Township, while the Saline River has its headwaters in Columbia Lake and Joslin Lake in the northeast of the Township.

There are three school districts within the boundaries of Bridgewater Township: Clinton Community Schools, Manchester Community Schools and Saline Area Schools. The Clinton and Manchester volunteer fire departments serve the residents of the Township. Three libraries (Clinton, Manchester and Saline) also serve the community.

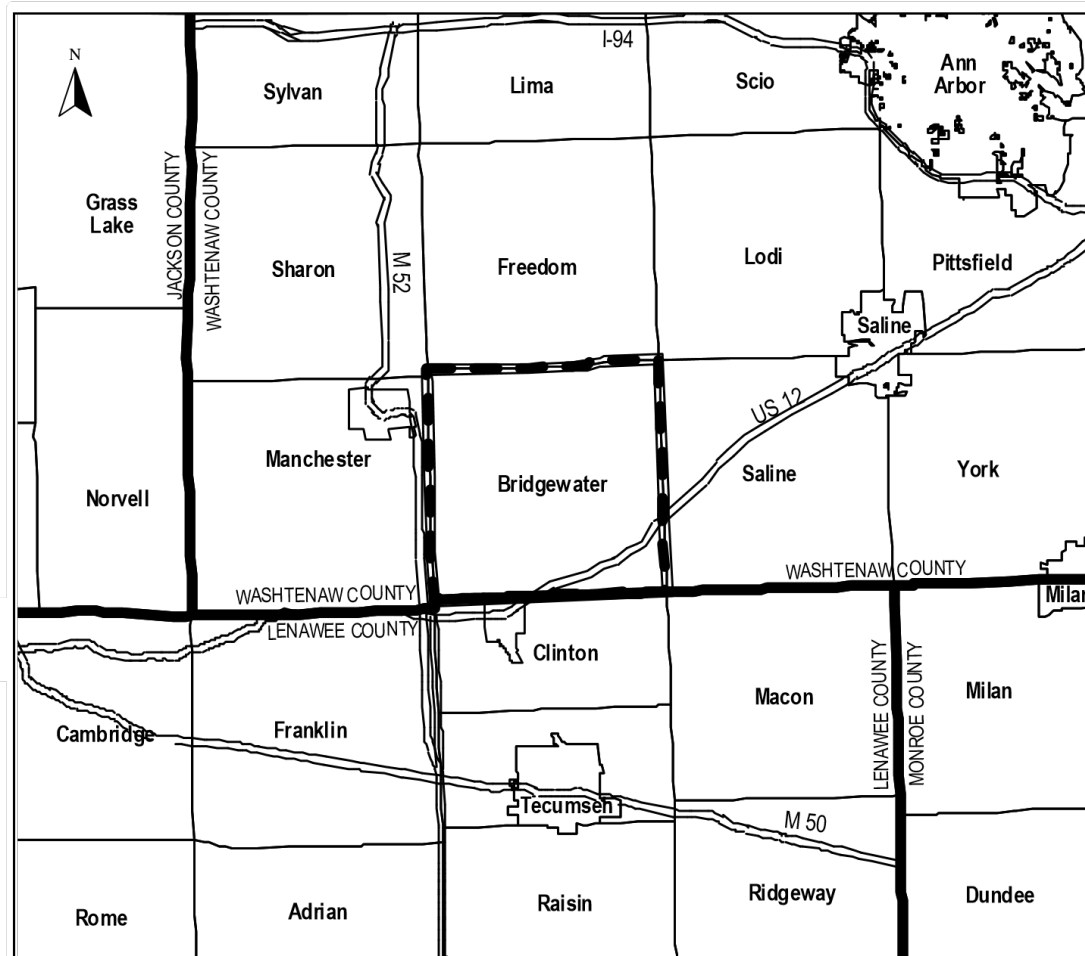
The Hamlet of Bridgewater is a historic railroad settlement consisting today of a mix of businesses and residents. The Hamlet is located on Austin Road, a main east-west route, in the northeast quarter of the Township a few miles west of the City of Saline.

Coordination with Neighboring Jurisdictions

Bridgewater Township shares boundaries with nine (9) other jurisdictions in Washtenaw and Lenawee counties, and pledges to coordinate with and cooperate with neighboring

jurisdictions and other outside agencies with jurisdiction in the preparation and updating of this Master Plan, and in the review and comment on draft plans of other jurisdictions.

Map 1 Location of Bridgewater Township and Adjacent Communities



Map representative and not to scale.

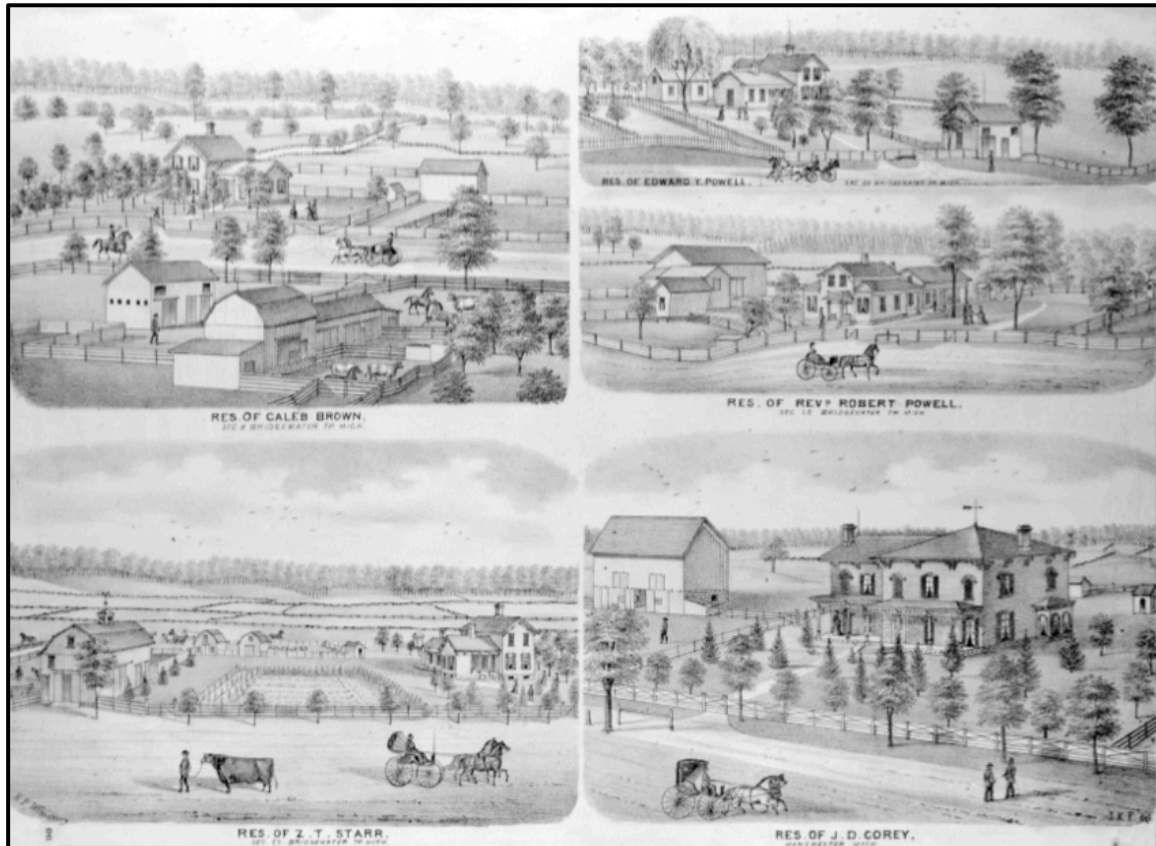
HISTORY OF BRIDGEWATER TOWNSHIP

"Bridgewater is a country of gentle farmland, beautiful rivers and streams and picturesque lakes – Joslin Lake, Columbus Lake, the expansion of the Raisin River and Iron Creek run through the area. It has a wealth of agricultural resources and 90 percent of the township is devoted to farming." ("Manchester's First Hundred Years (1867-1967)" by Marie A. Schneider. Manchester Area Historical Society, pg. 53)

The township was originally named "Hixon Township," after Daniel Hixon who had settled in the area in 1829. In 1832, Hixon Township divided into what would become Bridgewater and Manchester townships. An 1819 survey available in the Bentley Historical Library in Ann Arbor shows the area that would become Bridgewater Township in 36 sections totaling 22,997.67 acres. Its first Supervisor, George Howe, named the township in honor of a village of the same name in Oneida County, New York.

"The first birth (in Bridgewater Township) was that of Henrietta Hixon. The first marriage was that of Dennis Lancaster and Harriet Frederick. It was Daniel Hixon who built the first house of log and the first frame house was built by Daniel Brooks.

"Normal Conklin was the first school teacher in the first district school built in 1834, and Jacob Gilbert erected the first sawmill on the 'East Bend' of the Raisin in the same year. The first grist mill (in the township) was built by Wm. W. Aunin in 1857." (Ibid., pg. 53)



By 1850 there were two settlements, River Raisin and Bridgewater. Each had a railroad station and a post office. The River Raisin community no longer exists.

"The German Lutherans erected the first church (in Bridgewater) with Rev. Mr. Foltz the pastor. The Taylor and the Morris saw-mills existed up to 1870, when a fire destroyed both. A shoddy mill was established; but because of the difficulty in obtaining rags it was discontinued." (Ibid., pg. 53)

In 1856 the first town hall opened at on the site at 10990 Clinton Road, Clinton, Michigan. It was used for "moral and scientific lectures and for funerals." (Ibid., pg. 53) The present hall was built in 1882 and appears on the Michigan Register of Historic Sites. It has been in continuous use as the site of township meetings, elections and social functions since that time.

"In the early days (the Hamlet of) Bridgewater was a station on the Detroit, Hillsdale, and Indiana Railroad (which was) completed through Washtenaw County in 1870. That

route began in Ypsilanti and ran through Saline, Bridgewater and Manchester and on to Hillsdale.” (Ibid., pp. 11, 54) Both passenger and freight service were available, with additional passenger rail service to Tecumseh, Jackson and other stops along the Lakeshore and Michigan Southern railroad were available from neighboring Manchester Village. The tracks were removed during the 1960s.

Past industrial activities in Bridgewater included the Luther and Erwin Klager Hatchery on Austin Road, which was in operation by 1927. By 1967, it was “the largest producer of egg type baby chicks in Michigan (with) 11 full-time and several part-time employees.” At that time, the Klager Hatchery’s four incubators had “a capacity of 210,000 eggs—50,000 chicks a week. Pullet chicks supplied replacement pullets to egg production farms in Michigan, Ohio, Indiana and Illinois.” (Ibid., pg. 69).

Also located in Bridgewater was Regis Manufacturing Co., which manufactured fixtures for automobile manufacturing plants, employing 15 to 20 men in 1967. Neither operation exists in the Township today, although evidence of the railroad and the Township’s industrial history can still be seen in and around the Bridgewater Hamlet.

BRIDGEWATER TOWNSHIP’S FUTURE

The history of Bridgewater Township helps us to understand where we are and how we got here. We can use our knowledge of the Township's past to help determine what characteristics we would like to protect and enhance, and to help evaluate the probability of success in doing so. In addition, we can, with some degree of confidence, state the following conclusions regarding our future prospects:

- Decisions made in Lansing and Ann Arbor, as well as in nearby Saline, Clinton, and Manchester, will continue to have an impact on Bridgewater Township. This emphasizes the need for inter-jurisdictional cooperation and coordination.
- Bridgewater Township is fortunate to have many outstanding natural features that enhance our community and can continue to do so with proper protective measures and planning.
- Future population growth may put pressure on farmers to sell land for rural residential development.
- An aging population of farmers may cause locally-owned family farms to transition into a corporate farming model as agricultural land is consolidated into large corporate land holdings ultimately managed by outside entities that are less reliant on agricultural support services in the local area.
- However, agriculturally productive soils and large undivided landholdings in the Township, along with access to nearby agricultural support services, ensure that commercial agriculture and its associated rural economy will remain an important part of the community.

Chapter 2 DEMOGRAPHICS

This chapter describes selected population, housing, and income characteristics of Bridgewater Township. It presents current population estimates and the results of the 2010 U.S. Census, and relates them to historical data and to the larger jurisdictions where appropriate. An estimate of future population prepared by the Southeast Michigan Council of Governments (SEMCOG) is also presented.

POPULATION CHARACTERISTICS

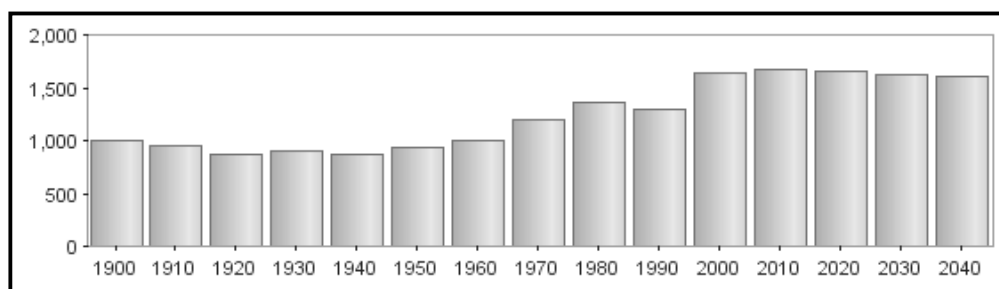
Population Projections

Between 1970 and 1980, and again between 1990 and 2000, the Township experienced double-digit percentage increases in population (13.8% in 1980 and 26.2% in 2000). However, the Southeastern Michigan Council of Governments has projected a generally flat rate of population change over the next two to three decades.

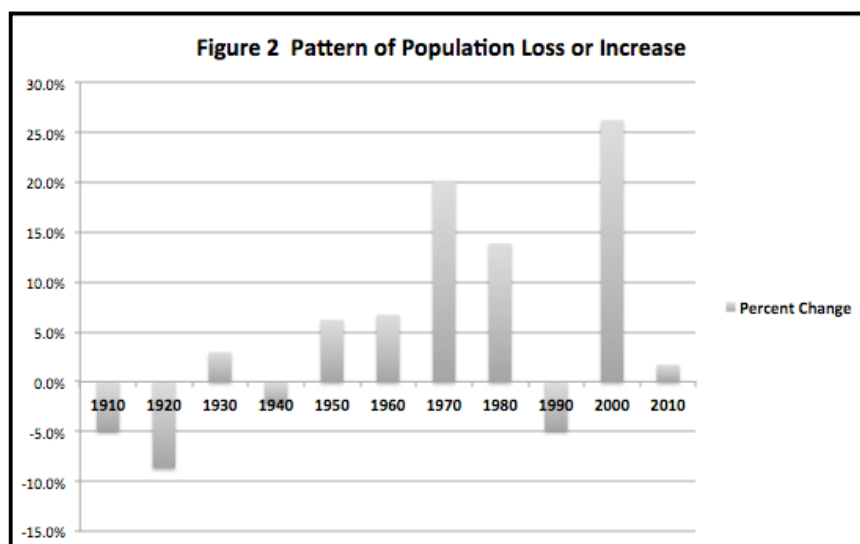
Table 1 Population History (1900 -2010)

1900	1910	1920	1930	1940	1950	1960	1970	1980	1990	2000	2010
1,011	961	878	904	884	939	1,002	1,204	1,371	1,304	1,646	1,674

**Figure 1
Population Projections (1900 – 2040)**



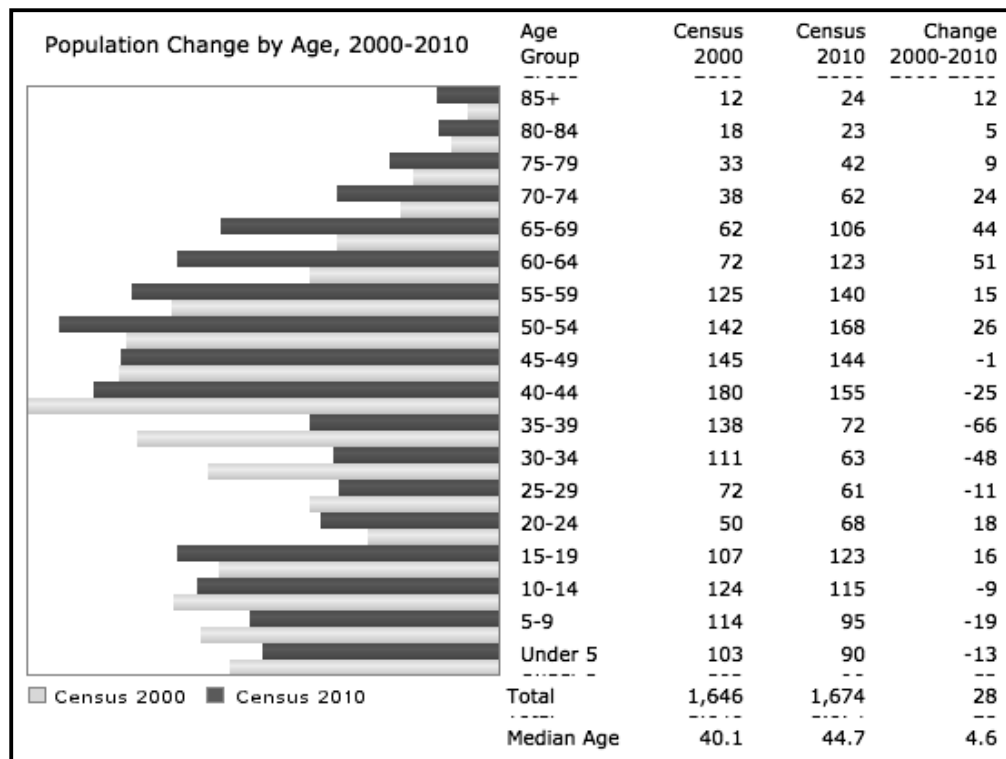
Source: Southeastern Michigan Council of Governments (SEMCOG).



Age Distribution and Trends

The population of Bridgewater Township is aging, reflecting national trends of Americans living longer and the "Baby Boomer" generation moving into their retirement years. Overall, the population of adults 65 years and older increased 57% between 2000 and 2010. At the same time, the population of young adults and families in their child-bearing years in the Township suffered a more than 40% decline from 2000 to 2010 (see Figure 3). The population of school-age children also dropped significantly during this period, even as the overall population numbers increased slightly. In demographic terms, these are fairly dramatic changes in a 10-year period.

Figure 3
Population Change by Age (2000 – 2010)



Source: Southeastern Michigan Council of Governments (SEMCOG).

Education

The people of Bridgewater Township are well educated. Based on the 2010 Census, 26% of Township residents 25 years or older have a bachelor's degree or higher, and another 33% have a two-year college degree or have attended "some college." Less than 5% of those in this age group reported not graduating from high school.

Household Characteristics

The average household in Bridgewater Township consisted of 2.67 persons, according to the 2010 United States Census. This is higher than both the Washtenaw County average of 2.38 persons and the State of Michigan average of 2.49 per household. 71.0% of households consisted of a "husband-wife family" according to the 2010 Census. Of these, 27.0% included children less than 18 years of age. 3.1% of Township households with children under 18 years old were led by single parents.

ECONOMIC MEASURES

Median Household Income

From 2000 to 2010, the median household income in Bridgewater Township has remained fairly flat, increasing less than 5% while the overall county's median household income rose 14.9% (see Table 2).

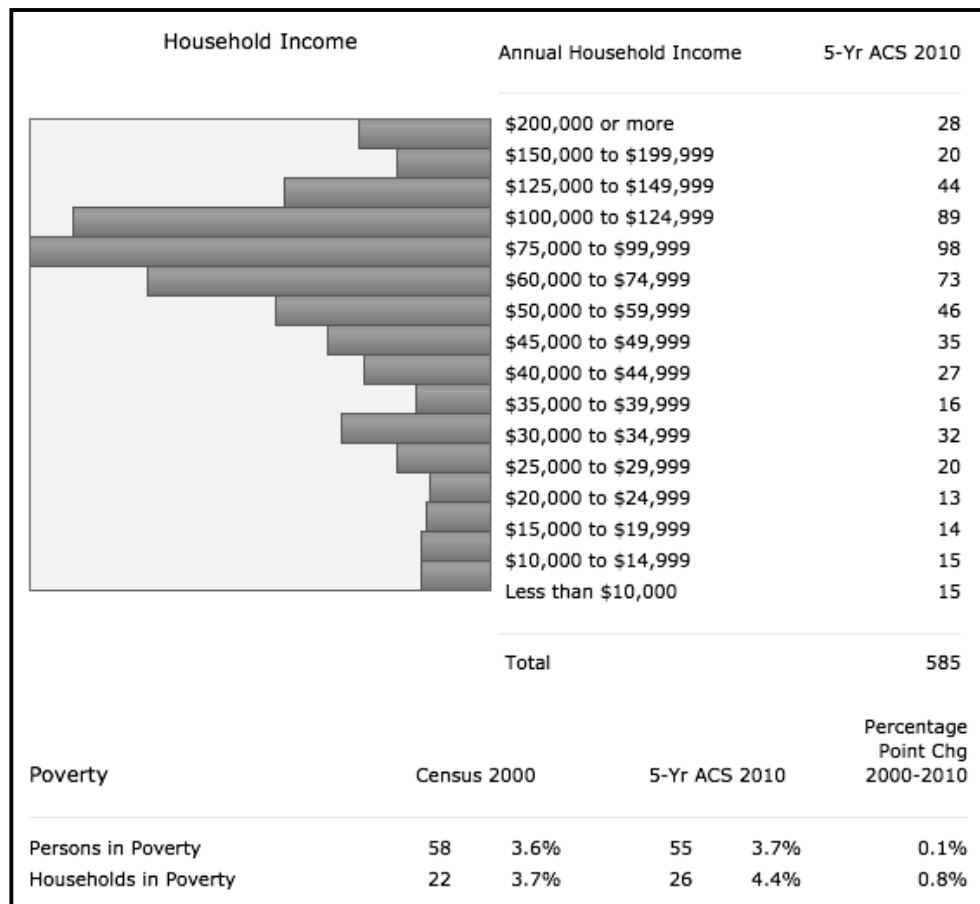
Table 2 Median Household Income (2000 – 2010)

Jurisdiction	2000	2010	Total Change 2000-2010	Percent Change
State of Michigan	\$44,667	\$48,669	\$4,002	8.9%
Washtenaw County	\$51,990	\$59,737	\$7,747	14.9%
Bridgewater Township	\$68,011	\$71,094	\$3,083	4.5%

Sources: 2000 United States Census and 2007-2011 American Community Survey 5-Year Estimates

4.4% of Township households lived below the federal poverty level in 2010, which represents a slight increase over the 2000 Census figure (see Figure 4).

**Figure 4
Household Income Distribution (2010)**



Source: Southeastern Michigan Council of Governments (SEMCOG).

Chapter 3 EXISTING LAND USE

This chapter examines the pattern and arrangement of existing land uses and public infrastructure in the Township.

LAND USE CLASSIFICATIONS

An existing land use inventory provides a foundation upon which current and long-range planning recommendations and decisions can be made. **Map ELU-1** illustrates existing land uses in the Township, based on a field survey conducted during May and June of 2000. The survey indicated that commercial and industrial activities remain primarily clustered within the Bridgewater Hamlet, consistent with the Township's historic development pattern.

Over 70% of the Township's land area is comprised of agricultural uses, with commercial crop production as the predominant agricultural activity. The one significant land use change since the 2000 survey is the development of attached residential housing along Joann Trail on the eastern border of the Bridgewater Hamlet. The partially completed development is shown below in Figure 3-1. The following is a summary of the land use classifications used in the survey:

Table 3-1 Land Use Classifications, 2000

Land Use Classification	Description
Agricultural	This category includes all land area used for crops and pastureland. If the land appeared to have been farmed in the last few years, though not during the last growing season, it was included in this classification.
Single Family Residential	This category includes areas containing single-family or two-family dwelling units and accessory structures.
Multiple Family Residential	This category includes all multiple-family land uses, where three or more separate dwelling units occupy a single building on a lot.
Mobile Home Park	This category includes planned mobile home parks and their related accessory buildings and recreational areas.
Commercial	This category includes land areas where office uses, retail sales, and service establishments are found.
Industrial	This category includes uses with or without buildings where materials are processed, fabricated, assembled or manufactured; or where industrial equipment, materials or wastes are stored outdoors.
Public & Quasi-Public	This category includes land area and facilities such as churches, cemeteries, schools, and government buildings; and public and private recreational uses, such as golf courses and parks.
Extractive	This category includes extractive activities that are primarily carried out upon the surface of the earth through open excavation, such as sand, gravel and rock quarry removal operations.
Inactive & Natural	This category includes woodlands, water bodies, and open and vacant land.

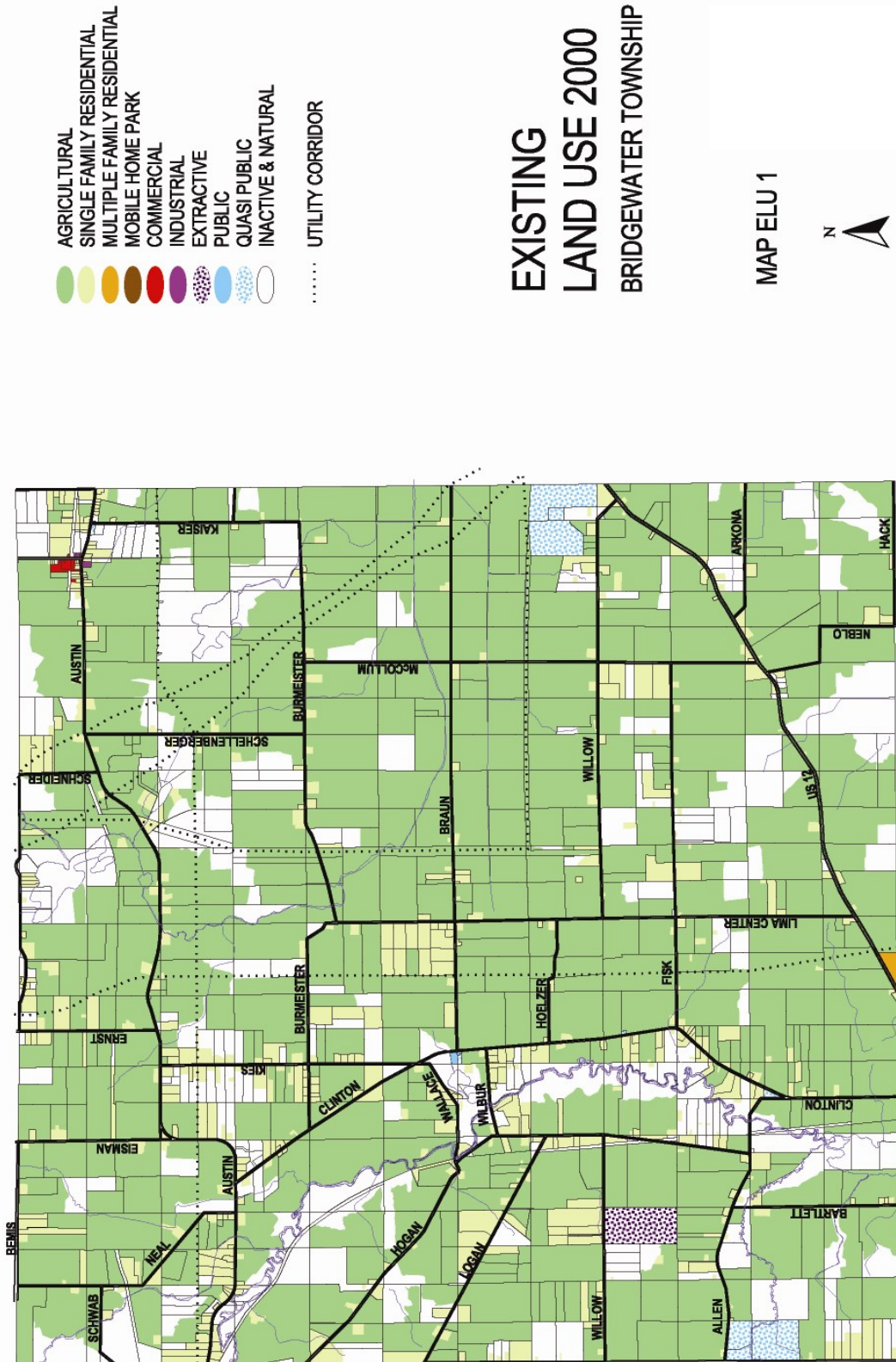
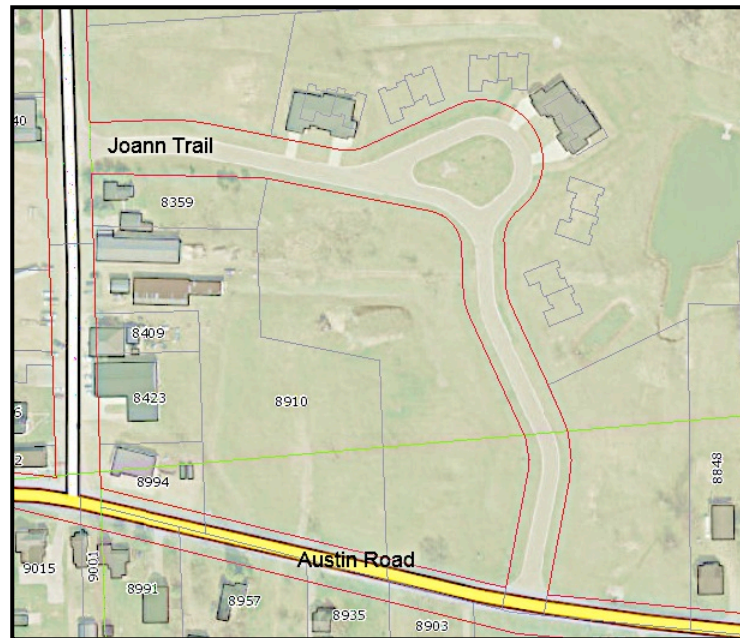


Figure 3-1 Bridgewater Hamlet, Joann Trail Development, 2013

LAND USE ANALYSIS

This section provides some additional details and analysis about existing land uses .

Table 3-2 Percent of Total Land Use, 2000

Land Use Category	Total Area (acres)	Percentage of Total Land Area (%)
Agricultural	16,689	71%
Single Family Residential	2,086	9%
Multiple Family Residential	12	> 1%
Mobile Home Park	0	0%
Commercial	10	> 1%
Industrial	3	> 1%
Public & Quasi Public	215	1%
Extractive	81	> 1%
Inactive & Natural	4,263	18%
TOTAL	23,359	100%

Agricultural Uses

Agriculture is the most prominent land use within Bridgewater. 16,689 acres of land are used for agricultural purposes, comprising about 71% of the Township's total land area. According to July, 2013 data provided by the Michigan Department of Agriculture, approximately 4, 600 acres are currently protected by "PA 116 agreements" that restrict non-farm development on the land for a period of time.

Public Act 116 of 1974, now codified as Part 361 of Michigan's Natural Resources and Environmental Protection Act (P.A. 451 of 1994, as amended), established the state's farmland preservation program. Intended to restrict development of agricultural parcels, this program uses voluntary agreements between the state and landowners to reduce the effective property taxes on the land for the period of enrollment.

A total of 59 separate PA116 agreements are currently active in the Township, with end dates from 2014 for older agreements to as far as the year 2100.

Residential Uses

Approximately 2,098 acres are used for residential purposes, making up less than 10% of the Township's total land area.

- Single-family and two-family residential: Single-family homes are dispersed throughout the Township. Most are located on large lots and adjacent to agricultural land. There are some concentrations of homes on smaller lots, primarily in the Bridgewater Hamlet, including the partially completed two-family or duplex development on JoAnn Trail east of Boettner Road and north of Austin Road.
- Other residential uses: There are few multiple-family residential or mobile home park uses within the Township.

Commercial Uses

Commercial uses are primarily clustered in the Bridgewater Hamlet, occupying approximately ten acres of land.

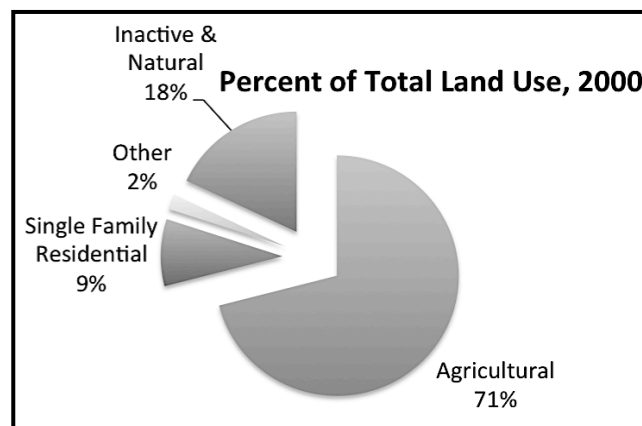
Industrial Uses

There are only three acres of land used for industrial purposes. All of these uses are located within the Bridgewater Hamlet.

Public & Quasi-Public Uses

Public and Quasi Public uses comprise only 1% of the Township's total land area, with 215 acres devoted to these uses. Quasi-public uses include the golf course located near Willow Road and US-12, two churches, two cemeteries, and the former High Scope property in the southwest corner of the Township now occupied as a monastery. Public uses in the Township include the Township Hall and two county nature preserves.

Figure 3-1 Percent of Total Land Use, 2000



Extractive Uses

There is a single extractive use in the Township, located on an 81-acre site south of Willow Road in the southwest corner of the Township.

Inactive & Natural

Woodlands, water bodies and vacant land make up 4,263 acres of land, or 18% of the Township's total area. Much of the land in this category is heavily wooded, especially along the Raisin River, as well as around Columbia, Schaffer, and Joslin Lakes in the northeast portion of the Township.

HISTORIC RESOURCES

Due to the early settlements of Saline, Clinton, Manchester and the surrounding farmland, there are numerous historic homes, barns, and places in the Township. Twelve historic barns in the Township have been highlighted for their unique design elements in publications prepared by the Washtenaw County Historic Preservation office.

INFRASTRUCTURE

The following is an updated summary of existing conditions associated with public roads, sewage treatment, potable water supplies, emergency services, schools, and other community facilities and services in the Township:

Existing Road Network.

The highest volume roads in Bridgewater Township are US 12, Austin Road, Clinton Road, and Schneider Road:

- US-12 is a two-lane state highway crossing the southeastern corner of the Township.
- Austin Road is a two-lane county primary road that serves as the Township's main east-west travel route between the City of Saline to the east and the Village of Manchester and the M-52 state highway to the west.
- Clinton Road is a two-lane county primary road that runs north-south past the Township Hall, extending south into the Village of Clinton in Lenawee County and beyond (as Tecumseh Road) to the City of Tecumseh.
- Schneider Road is a two-lane county primary road that connects north from Austin Road near the Bridgewater Hamlet into Freedom Township and, via Pleasant Lake Road and Parker Road, to the Village of Dexter and the Jackson Road business district in Scio Charter Township.

The majority of the Township's roads are unpaved. Typically, these roads carry very low volumes (under 400 vehicles per day). The ability of unpaved roads to carry high traffic volumes depends on their width, alignment, and state of maintenance.

Public Sewer and Water.

The Township provides sanitary sewer services only within a designated service area in the Bridgewater Hamlet. All other parcels in the Township are served by private septic systems. Potable water in the Township is supplied via private wells.

Community Facilities and Schools.

1. Township Hall:

The historic Bridgewater Township Hall is located on the west side of Clinton Road, at the intersection of Braun road. In 2001, the Township purchased 7.93 acres of land adjacent to the Township's existing 2.3-acre site, which also includes a cemetery with graves dating back to the 1830s. In 2013, the Township completed a series of interior and exterior renovation projects, including barrier-free access improvements, an interior renovation to restore the historic character of the facility, and new windows. At this time, there are no plans to expand the Township Hall.

2. Police and Fire:

The Township contracts for fire protection services from the Village of Manchester and the Village of Clinton. Both of these communities have mutual aid agreements with each other and other communities such as the City of Saline when necessary. There are no fire station facilities in the Township. Police protection is provided by the Michigan State Police, along with limited road patrol and response by the Washtenaw County Sheriff's office. There are no police station facilities in the Township.

3. Sewer and Water:

In 2001, the Township Board took action to correct failing on-site septic systems within the Bridgewater Hamlet area that ultimately led to implementation of a Township-owned and operated sanitary sewerage system for the Hamlet. Water service is not being planned. Additional information about this system, including the sewer district boundaries, is provided in Chapter 8 (Bridgewater Hamlet Area Plan) of this Master Plan.

Outside of the Township, the closest public sewer and water services are provided within the villages of Manchester and Clinton. The Village of Manchester is located approximately 1/2 mile northwest of the Township. Manchester Township surrounds the Village and borders Bridgewater's western boundary. The Village of Clinton borders Bridgewater Township's southwestern boundary.

Manchester upgraded their wastewater treatment plant capacity in the early 1990s, and the plant may still have capacity available. The Village of Manchester has no plans to extend services into Manchester Township's rural residential area adjacent to Bridgewater Township. The Village of Manchester has maintained a policy that services will not be extended unless the area to be served is annexed by the Village.

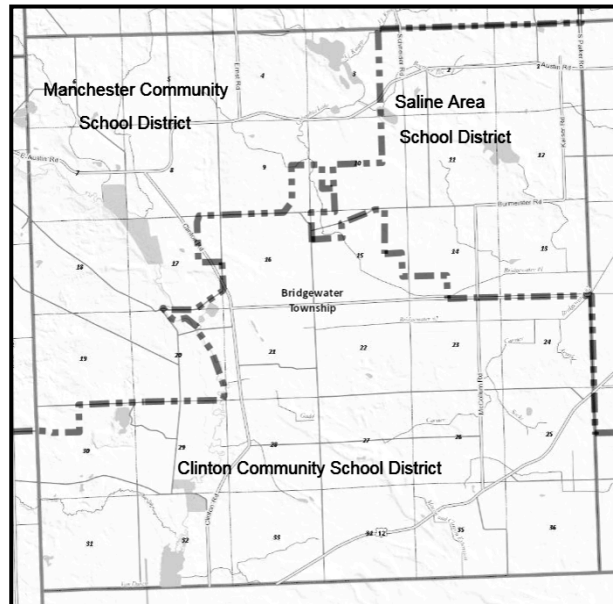
The Village of Clinton also may have additional capacity available in their wastewater treatment system. However, Clinton has maintained a policy that services will not be extended north beyond the Lenawee – Washtenaw County line that separates the Village from Bridgewater Township.

4. Schools:

There are no public school facilities in the Township. The people of Bridgewater Township are served by three school districts:

- Clinton Community Schools in the southern part of the Township;
- Manchester Public Schools in the northwest part of the Township; and
- Saline Area Schools in the northeast part of the Township.

Figure 3-2 School Districts, 2013



5. County facilities:

There are two nature preserves in the Township, which are owned by Washtenaw County and managed by the county Parks and Recreation Commission:

- Erwin-Stucki Preserve, west side of Clinton Rd. approximately 0.6 miles south of Austin Rd.; and the
- Riverbend Preserve, south side of Allen Rd. 0.25 miles west of Clinton Rd.

Chapter 4 PHYSIOGRAPHIC CHARACTERISTICS

This Chapter examines existing physiographic characteristics of the Township, including soils, topography, streams, and other natural features, which are depicted on land cover maps based on aerial photo interpretation. Land cover is a description of the presence or absence of vegetation and, if present, the type of vegetation. These types include agriculture, upland and lowland forests, grasslands, and wetlands. Non-vegetative land cover includes developed areas, gravel pits, etc.

SOILS

With the exception of the Bridgewater Hamlet area, the Township does not have sanitary sewerage service. New development outside of the sewer district is restricted by the suitability of underlying soils to support private septic systems. **Map ECA 1** indicates areas of the Township that have soils with slight to moderate limitations for developments that require sewage disposal systems. The large majority of land in the Township has severe limitations to such development (shown in white on Map ECA 1).

These slow percolating soils often require “engineered” septic systems and ample space for backup tile fields, according to the Washtenaw County Environmental Health Division. Further, the lot must be large enough for an adequate separation distance between the septic system (tank and drain fields) and the well and those of neighbors. These soil limitations also indicate foundations are more susceptible to cracking and heaving and that the likelihood of wet basements is higher unless special measures are used to keep water away from footings and foundation walls.

FARMLAND

Map ECA 2 indicates areas of Bridgewater Township that have prime agricultural soils. As this map illustrates, the majority of the Township contains soils that are prime for agricultural purposes. This is important to note when making decision regarding future land uses throughout the Township.

TOPOGRAPHY

Bridgewater Township’s topography varies by 190 feet from the lowest point to the highest point. The lowest point of 820 feet is located in the southwest quarter of Section 13, and the highest point of 1,010 feet is located in the northeast quarter of Section 19. **Map ECA 3** illustrates the Township’s topography at 10-foot contour intervals.

Rolling hills add to Bridgewater’s scenic beauty and character. However, such soils can be prone to soil erosion, which can negatively affect fish populations and other surfacewater ecosystems. Agricultural and land development activities in areas with rolling topography or slopes of 12% or greater, especially steep slopes greater than 25%, should best be placed away from the slopes and designed to minimize erosion. Map ECA 4 highlights areas with slopes greater than 12%.

WATERSHEDS

Bridgewater Township is part of the River Raisin watershed, which is divided into three sub-watersheds: The River Raisin and Saline River sub-watersheds split the Township roughly into east and west, while the Macon Creek sub-watershed covers a small area in the southern part of the Township.

WETLANDS

Wetlands are areas where the soil shows the effects of extended saturation by water and where the vegetation is typical of a wet root zone environment. Wetlands may have water visible for all of the year or only part. Wetlands can be marshy or they can be forested. Wetlands provide valuable storage of rainwater and snowmelt. Some provide a groundwater recharge function; others help filter pollutants from stormwater and serve as wildlife nurseries and habitat. Wetlands have become important amenities for those who like the natural view and the wildlife that live or visit there.

Wetlands throughout the Township are depicted on **Map ECA 5**. There are few wetlands shown in the agricultural part of the Township, primarily because of alterations of pre-settlement wetlands for farming. For those fields that have tile drainage, the disruption of those tiles in the future could result in the re-emergence of wetlands.

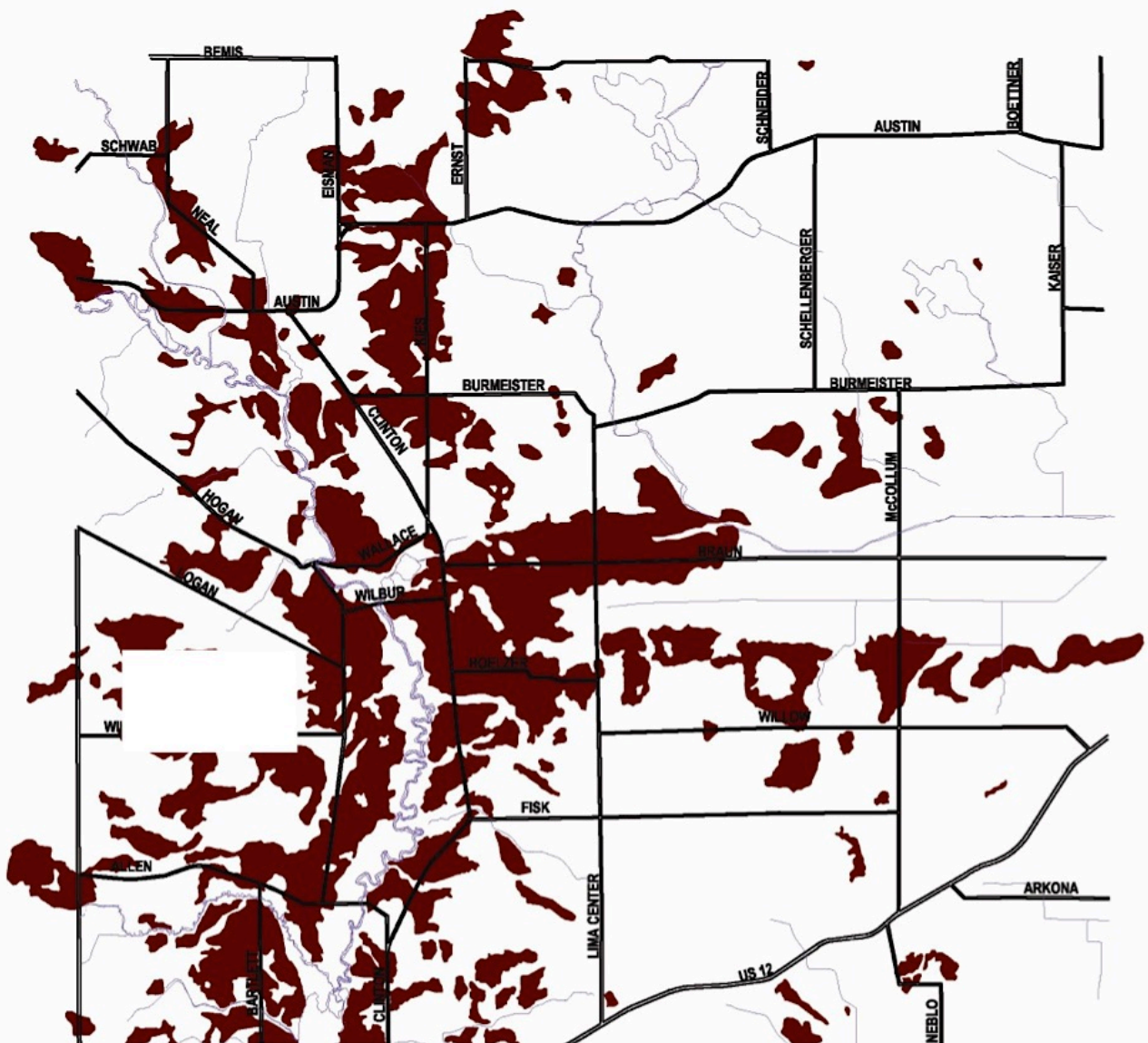
GROUNDWATER RECHARGE AREAS

Groundwater recharge areas are locations where soil and topographical conditions are favorable for rain and snowmelt to rapidly percolate into the ground and reach the water table. These areas are also at an enhanced risk for contamination of groundwater from pollutants on the surface of the ground. **Map ECA 6** illustrates three groundwater recharge areas within the Township. The largest area is located along Clinton Road between Wallace and Fisk Roads. Two smaller areas are located in the northwest corner of the Township along Schwab and Austin Roads. Development near recharge areas should provide safeguards against negative impacts, as pollution of these areas could significantly affect the area's groundwater supply.

WOODLANDS

"Woodlands" refers both to "forests" (defined as concentrations of trees with a 70% to 100% tree canopy coverage) and woodlands (concentrations of trees with a 20% to 70% tree canopy coverage). For purposes of mapping, an average tree canopy coverage of at least 24% is typically used. Upland forests occur on drier soils and wetland forests on soils that experience standing water for part of the year (or standing water was present at least part of the year for many decades in the past).

As shown on **Map ECA 7**, woodlands are scattered throughout the Township and many are in large blocks. Many woodland areas are in close proximity, contributing to more or less contiguous wildlife corridors and habitats.



 AREAS WITH SLIGHT & MODERATE
LIMITATIONS TO RESIDENTIAL
DEVELOPMENT WITHOUT
PUBLIC SEWERS

LIMITATIONS TO DEVELOPMENT BRIDGEWATER TOWNSHIP

MAP ECA 1

Source: Washtenaw County
Metropolitan Planning Commission
Based on Information from
USDA - Soil Conservation Service





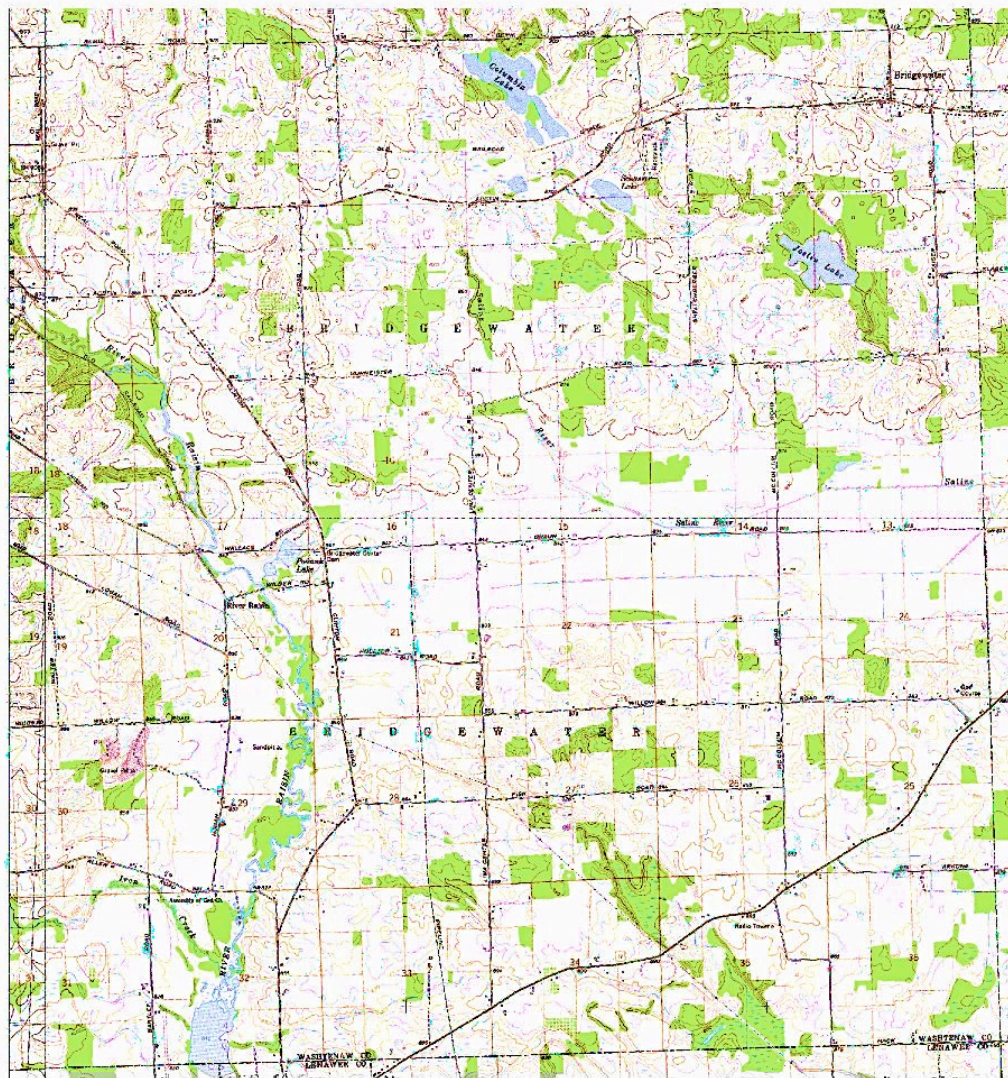
 PRIME AGRICULTURAL SOILS

PRIME AGRICULTURE BRIDGEWATER TOWNSHIP

MAP ECA 2

Source: Soil Survey of Washtenaw
County, Michigan 1973
USDA Soil Conservation Service





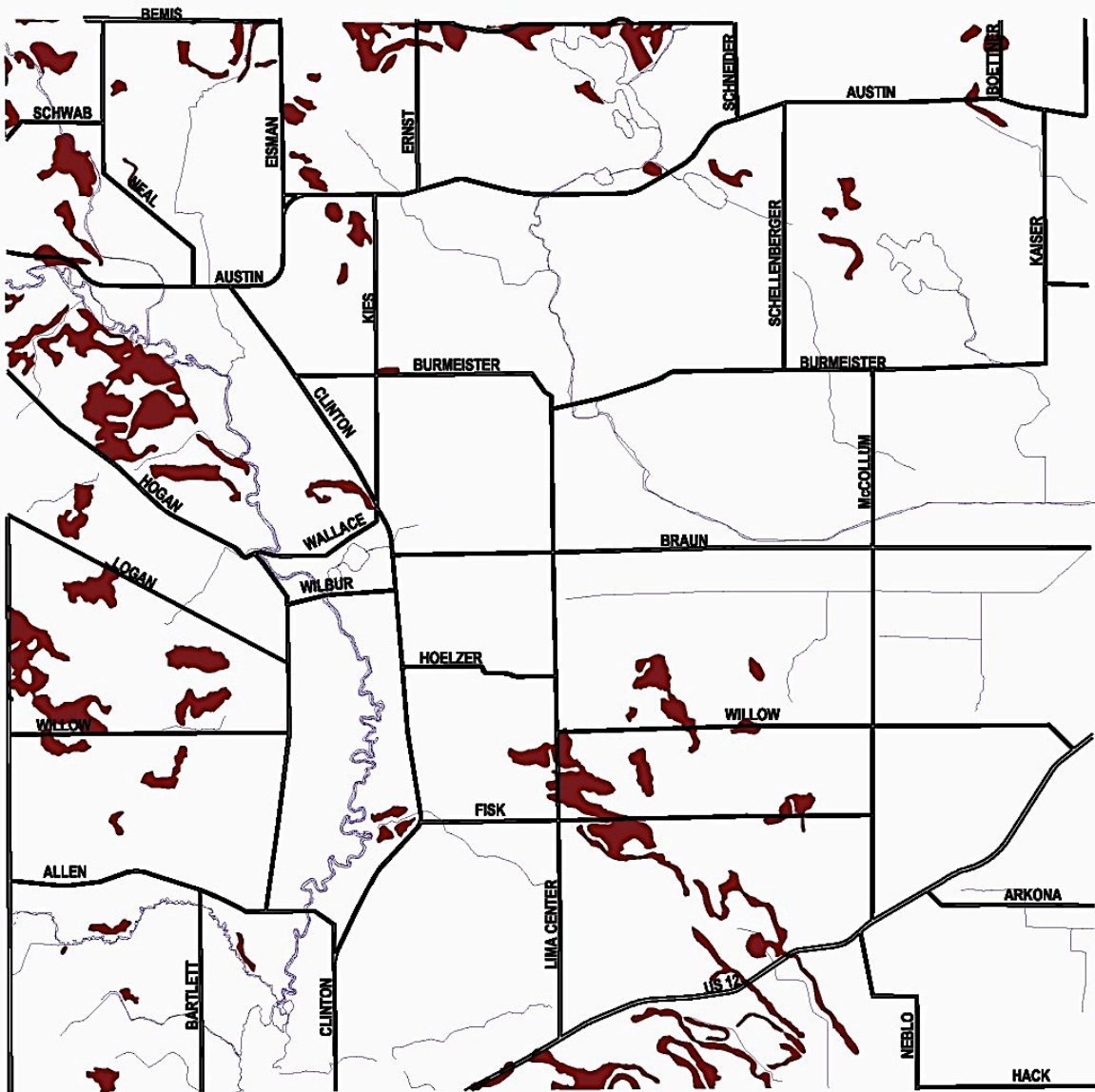
TOPOGRAPHY

BRIDGEWATER TOWNSHIP

MAP ECA 3



Source: USGS
Copyright 2000 DeLorme
TopoTools Advanced Print Kit



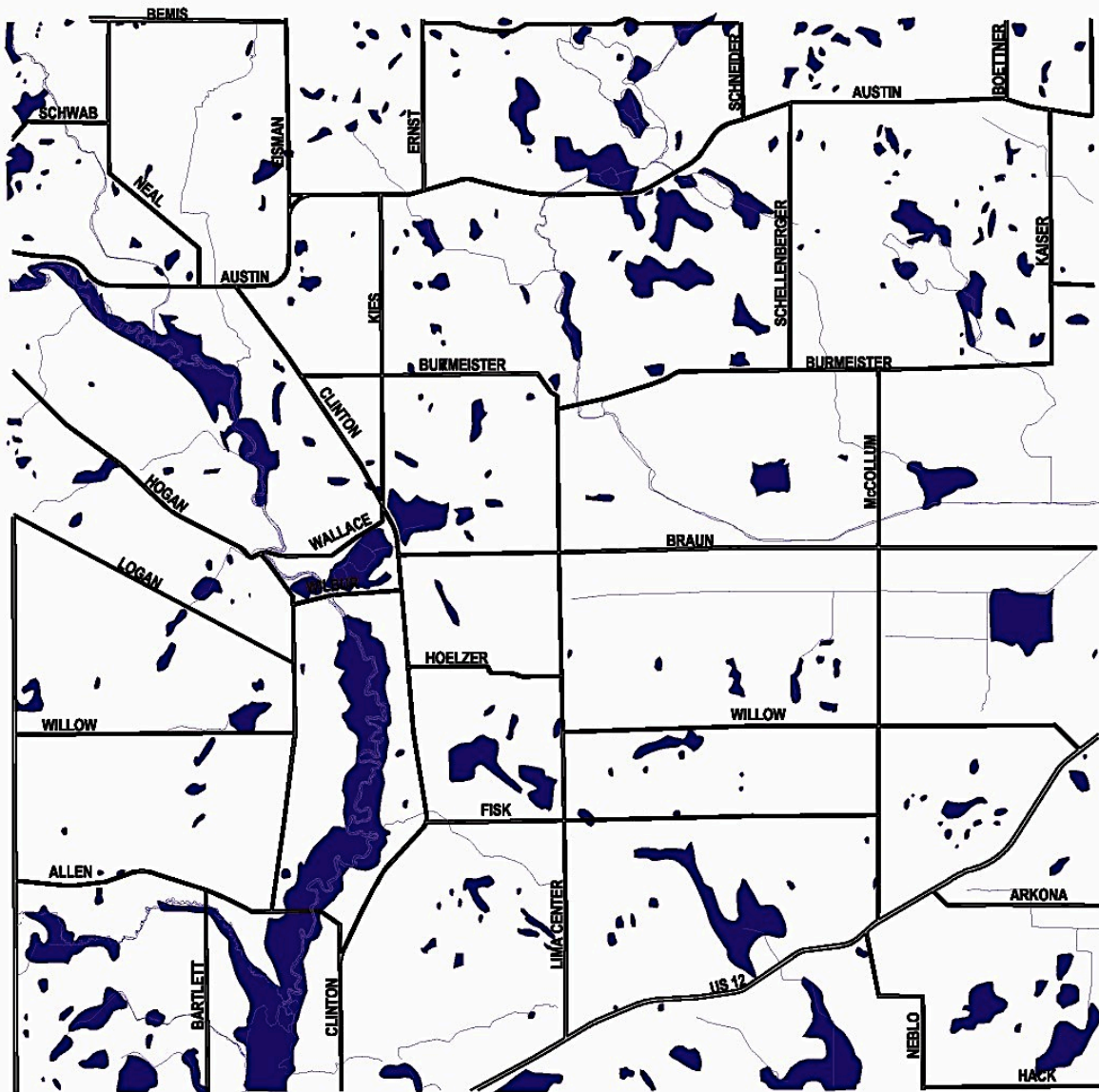
 AREAS WITH SLOPES
GREATER THAN 12%

STEEP SLOPES BRIDGEWATER TOWNSHIP

MAP ECA 4

Source: Washtenaw County
Metropolitan Planning Commission
Based on Information from
USDA - Soil Conservation Service





 WETLANDS

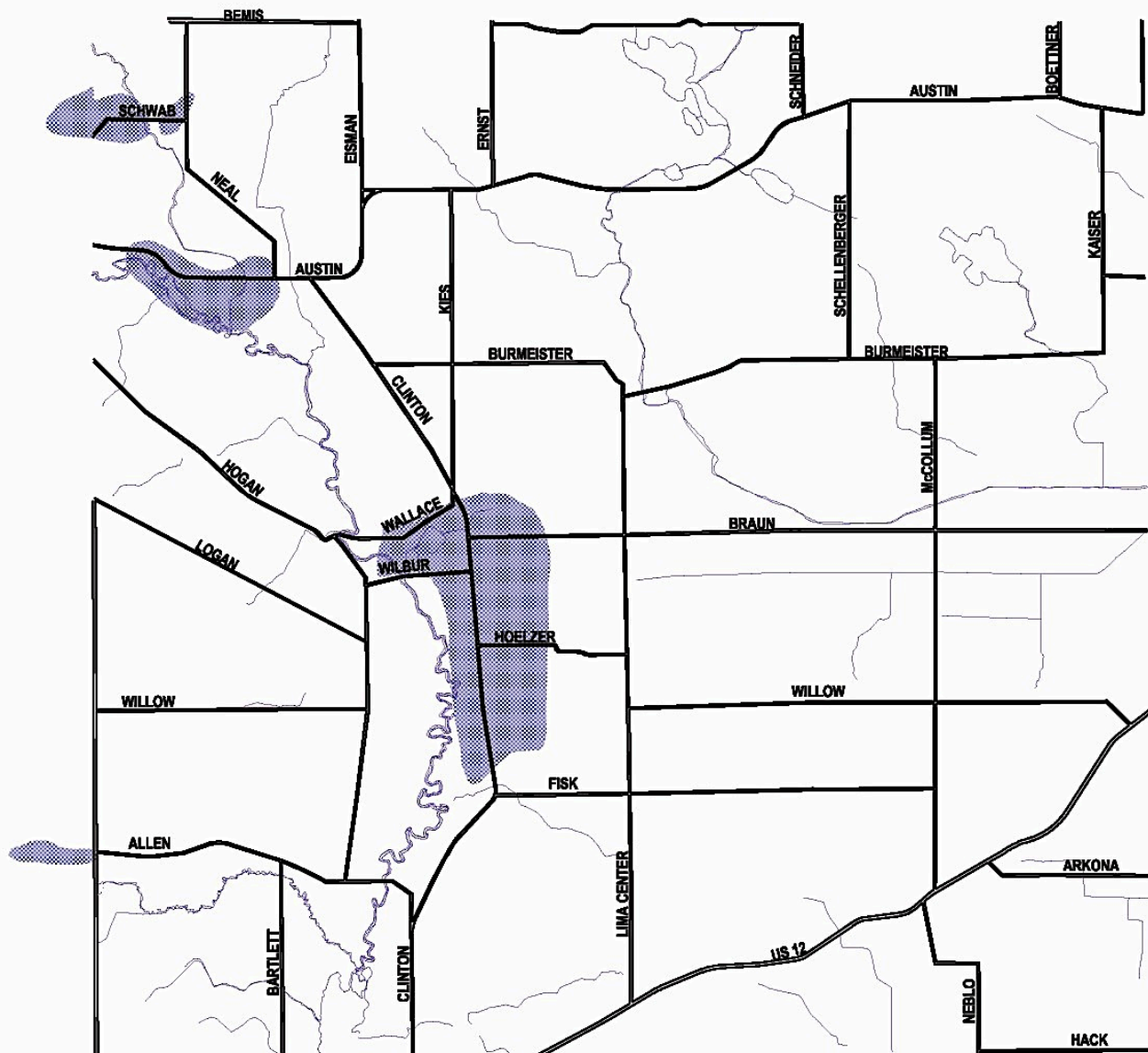
WETLANDS

BRIDGEWATER TOWNSHIP

MAP ECA 5

Source: Washtenaw County
Metropolitan Planning Commission
Based on information from
US Dept. of Interior, 1990 Aerial Photos





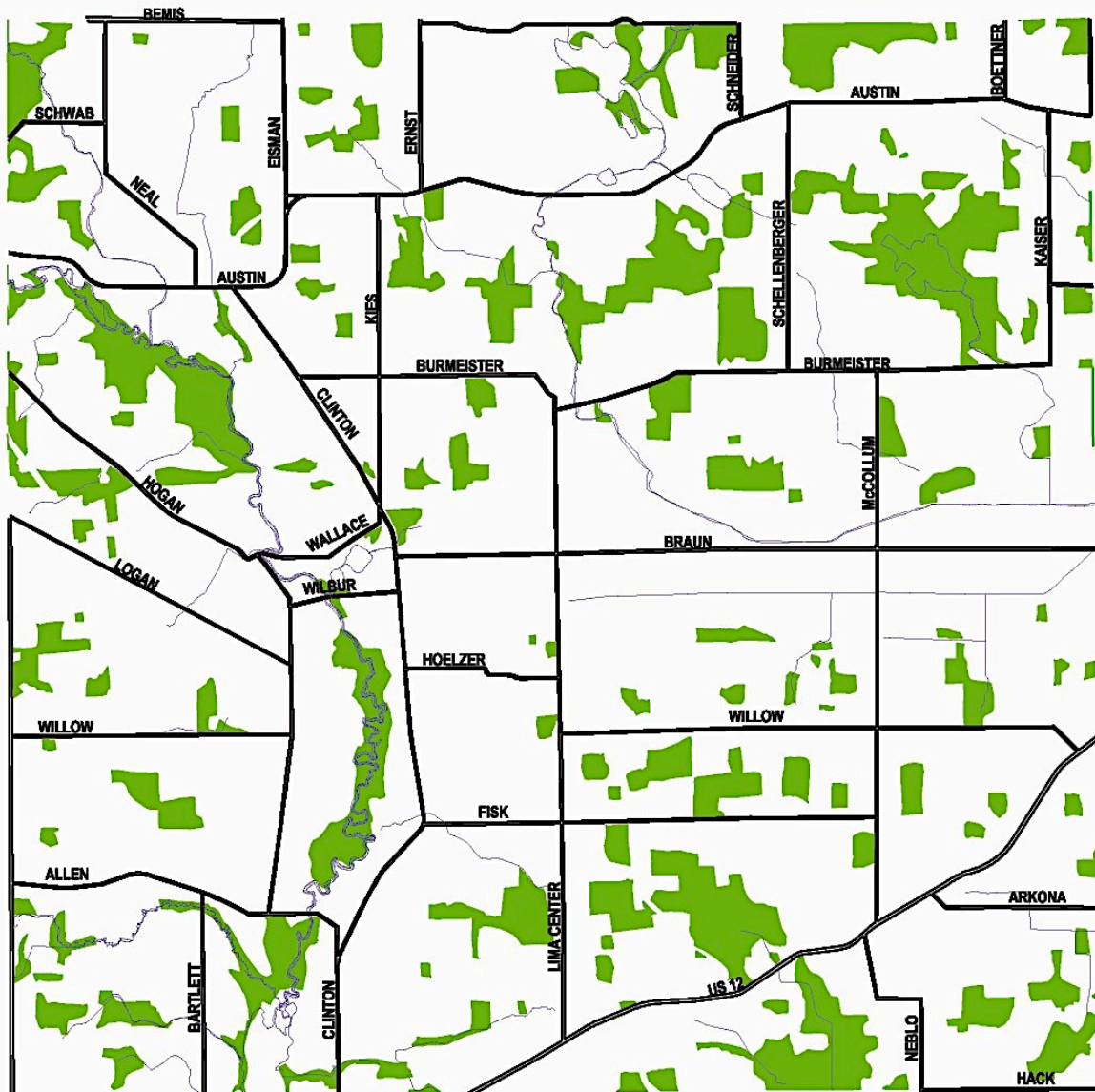
GROUNDWATER RECHARGE

BRIDGEWATER TOWNSHIP

MAP ECA 6

Source: Washtenaw County
Metropolitan Planning Commission





 WOODLANDS

WOODLANDS

BRIDGEWATER TOWNSHIP

MAP ECA 7

Source: Washtenaw County
Metropolitan Planning Commission
Based on Information from
MIRIS, 1990 Aerial Photos



Chapter 5 MAJOR ISSUES

State and regional trends and changing conditions in and around the Township raise major issues potentially impacting the future of the Township. The Planning Commission has identified a number of significant issues, which are summarized below.

[NOTE: Potential solutions and recommended policies to address these issues will be addressed in chapters 6 through 11 of this plan]

COMMUNITY CHARACTER

Agricultural activity defines Bridgewater Township and helps to maintain its rural and scenic character and small hometown feel. Preserving open space and a rural character is a high priority for Bridgewater residents. Future residential growth should be planned to minimize impacts on natural features and open space. The Township should consider cluster development options in order to preserve open space and promote farmland preservation. More intensive residential development should be clustered in the Bridgewater Hamlet, subject to available public sewage treatment capacity.

THE FUTURE OF HOUSING

Communities across Michigan are facing significant challenges with aging housing stock, including abandoned properties, blight, and conversions from owner-occupied to predominantly rental properties:

- Foreclosed, abandoned, and bank-owned properties create opportunities for vandalism, theft, and crime;
- Deferred maintenance, such as a lack of winterization or weatherization of vacant homes, can lead to structural damage, black mold, insect infestations, and other blight conditions that affect neighbors and the Township as a whole;
- Elderly residents may not have the resources or family support needed to adequately maintain their property as they have in years past;
- The conversion of formerly owner-occupied homes to rental properties can lead to a loss of neighborhood cohesion and character, and a lower standard of property maintenance; and
- Changing ownership patterns, family structure, and the aging of the population can lead to increased feelings of isolation among neighbors and a belief that “nothing can be done” about these issues.

Even in healthy communities with solid housing stock there is a need to upgrade obsolete infrastructure, including insulation, electrical systems, broadband Internet access, and heating/cooling systems to improve energy efficiency and better serve the needs of current residents.

Specific policy recommendations related to housing and community character are found in Chapter 6 (Goals, Objectives, and Policies).

THE FUTURE OF AGRICULTURE

Agriculture is “third leg” of Michigan’s economy. Over the past decade, as the other two “legs” of the state economy, manufacturing and tourism, suffered through the deep recession, agriculture has remained healthy and productive. However, there are a number of farm-related issues that may have significant impacts on the future of Bridgewater Township:

Changing Character of the Agricultural Economy

The predominant character of agriculture is changing in some areas of Michigan from a commodity farming model to more specialty farming and “value added” agricultural activities such as corn mazes, ‘U-pick’ operations, roadside stands, and local farm markets. The Township responded to this trend with changes to the Township Zoning Ordinance that allow farmers to diversify their income sources by adding these types of activities.

Some “value added” income sources for farmers have the potential to adversely impact neighboring land uses. For example, the State of Michigan’s ongoing push for increased use of alternative and renewable energy sources encourages farmers to “farm the wind” by constructing wind turbines or leasing land for commercial ‘wind farms.’ More recently, the Michigan Corn Growers Association supported a new law (Public Act 97 of 2011) that requires Michigan townships to allow equipment and storage facilities for on-site ethanol production of up to 100,000 gallons per year as a use “by-right” in agricultural zoning districts.

Impact of Increased Non-Farm Residential Development in Rural Areas

New non-farm dwellings near active agricultural operations increase the potential for adverse off-site impacts and resident complaints due to noise, odor, and dust typical of commercial agriculture. Non-farm residential development can also exacerbate traffic conflicts, increase the frequency of accidents involving farm equipment, and decrease the ability of farmers to easily transport equipment to non-contiguous parcels. Such development can also result in higher costs for the farmer, including higher property taxes and increased risk of crop damage or loss.

Financial pressures on farmer-landowners may also result in the incremental sell-off of portions of their properties as rural residential lots. Often, these lot splits create strips of non-farm residences with multiple driveway approaches along county roads, which may adversely impact both traffic safety and the rural character of the area.

The presence of only a few non-farm residences can adversely affect the stability of an agricultural area. As more non-farm housing is developed, other agricultural landowners make decisions to sell out and relocate away from development. Investment in local farm equipment and supplies decreases, resulting in a corresponding loss of the local support services farmers need to prosper, such as farm markets, implement dealers and repair shops, large animal veterinarians, feed and grain mills, etc. Without such support services in close proximity, commercial or commodity farming becomes unsustainable.

Specific actions already taken in the Zoning Ordinance to address these issues are found in the “Recent Zoning Ordinance Changes” section of Chapter 10 (Zoning Plan).

Aging Farmers and National Ownership Trends

According to a 2007 census by the U.S. Department of Agriculture, the median age of farmers in the United States increased from 50.3 in 1978 to 57.1 in 2007. The majority of U.S. farmers are between ages 45 and 64, but farmers aged 65 and older are the fastest growing age group in this industry. The future of farming in the Township will depend largely on the availability and interest of younger generations to become farmers.



The future of farming in the Township will also depend on the availability of productive land at reasonable prices, especially for local farming operations. Other states such as Iowa and Indiana have recently experienced large increases in agricultural property values as major investors seek “safer” investment alternatives to the stock and bond markets. In addition, the agricultural industry trend towards even larger, and sometimes multi-state corporate farming operations, where equipment and workers are transported from state to state and field to field.

Under this scenario, which may be related to the aging farmer population, there is less need at the local level for agriculture support services, and even less connection between the farmer and the local community.

THE FUTURE OF THE BRIDGEWATER HAMLET

There does not appear to be a need for significant additional commercial and industrial uses in Bridgewater Township. Future commercial and industrial uses should be in character with the rural atmosphere of the Township, and concentrated within the Bridgewater Hamlet area, subject to water and sewer constraints.

The Hamlet itself is an artifact of a historic development pattern associated with the former railroad line that passed through the area. The future of the Hamlet as a viable and active place within the Township will depend in large part upon a more active effort to plan for and attract appropriately scaled residential and non-residential development. Such growth is also desirable to ensure that adequate resources are available to support the existing sewage treatment plant in the Hamlet.

Specific goals, objectives, and policies for the Hamlet are found in Chapter 8 (Bridgewater Hamlet Area Plan).



TRAFFIC AND CIRCULATION

Bridgewater Township's road infrastructure is rural in character, with primarily unpaved roads and a lack of sidewalks throughout the Township. Residents value the existing gravel roads because they help to maintain the rural atmosphere. Improvements can be made, however, to enhance traffic circulation within and through the Township. In addition, the condition and ongoing maintenance of both the primary paved roads and existing gravel roads is of concern.

Traffic volumes from adjoining jurisdictions will continue to put pressure on the Township's primary roads. The Township does not want the road capacity of these roads expanded, because that usually results in more traffic, higher speeds, and a less rural character. As a result, it will need to take every opportunity to retain rural character along roadways as county and state road improvement projects are proposed.

The Township does not have the density of housing units to support a public transportation system. However, a limited "Dial-A-Ride" service is available for senior citizens in Bridgewater Township who no longer can drive themselves through the Manchester Area Senior Citizens Council, Inc. to access medical services, shopping, and other necessary activities to support independent living.

Austin Road - Clinton Road Corridor

Austin Road and Clinton Road are likely to increase in importance because of their roles in the area-wide road network. Speeds and accident rates along Austin Road in particular are too high. Measures are needed to slow traffic and correct safety deficiencies along these paved roads.

The US-12 Corridor

US-12 is a regional state highway, and a primary traffic route from metro Detroit and Ann Arbor into the Irish Hills and to the Michigan International Speedway (MIS). Over the past two decades, significant safety improvements have been completed by the State of Michigan, including paved shoulders, passing lanes, and improved signage. The portion of the road corridor in Bridgewater Township is planned to remain rural and agricultural in character.

Many rural Michigan communities that have state highways within their jurisdictions are experiencing increased pressure from billboard companies to allow additional billboards along these road corridors, along with the upgrading of existing billboards to electronic message boards. The Township may also experience increased development pressure in the future from commercial development and temporary or "pop up" commercial uses geared towards regional through traffic.

Non-Motorized Transportation

An increasing number of bicyclists and others are using Township roads for non-motorized transportation. The needs of all potential users of the Township's transportation network should be adequately addressed as road improvement projects are planned and implemented.

The US-12 corridor in particular is well-suited to become popular attractions for bicycle touring in the future, which may result in a need for additional services or facilities along the corridor. Austin Road and Clinton Road are also experiencing more bicyclists in recent years, even though the existing road design and traffic speeds are not suited for this purpose. These roads may become popular bicycle touring destinations once existing safety deficiencies are addressed.

Michigan's "Complete Streets" Policy

On August 1, 2010, Governor Jennifer Granholm signed a package of bills into law that established the state's new "Complete Streets" policy. The intent of the "complete streets" approach to transportation planning is to ensure that all users (motorists, pedestrians, bicyclists, etc.) are safely accommodated as part of transportation improvements along a road corridor.

This is a national movement, with numerous states, local governments, and even the U.S. Department of Transportation espousing these ideals for federal transportation projects. The Washtenaw County Road Commission and Michigan Department of Transportation (MDOT) are required to consider all users of the road right-of-way as part of the planning of future road projects, and to better coordinate road improvements with local governments and local transportation plans.

For the Township, this state policy change also impacts local land use planning. The 2010 law included amendments to the Michigan Planning Enabling Act (Public Act 33 of 2008, as amended) that:

- Modified the definition of "streets" to include all legal users, including bicyclists and pedestrians;
- Expanded the elements that may be included in a master plan to encompass all transportation systems that move people and goods;
- Specified that transportation improvements identified in a plan are appropriate to the context of the community and consider all legal users of the road; and
- Ensured that transportation elements of the master plan will be implemented in cooperation with the county road commission or MDOT.

As a result, chapter 9 (Transportation Plan) of this Master Plan will take on an even greater importance as a guiding policy statement of the Township.

SANITARY SEWER SERVICE

Publicly-Owned and Operated Sanitary Sewerage Systems

The Township presently provides public sanitary sewer service within a designated service area of the Bridgewater Hamlet. Unanticipated challenges and costs associated with operation and maintenance have arisen that may create ongoing issues for future use and development of the Hamlet (See Chapter 8, the Bridgewater Hamlet Area Plan).

Private Community Wastewater Systems

Under Part 41 of Act No. 451 of the Public Acts of 1994, as amended, the State of Michigan is authorized to issue permits for private wastewater disposal systems that serve more than one property ("private community wastewater system" or "PCWS").

Such private systems have increased in popularity among developers because they can increase the development potential of land not located within areas served by publicly-owned and operated sanitary sewer lines and treatment facilities. The PCWS option has been used by some developers in other Michigan communities to justify increased residential densities and smaller lot sizes in otherwise rural areas.

The long term challenges of using PCWS to treat and dispose of sewage include potential impacts on ground and surface waters of the Township, and inconsistent or deferred maintenance by responsible parties (homeowners' associations or equivalent). Failure of such systems can also result in the need to extend public sanitary sewer lines into areas not planned for such services. The potential for such systems to adversely impact neighboring properties and the waters of the Township is significant. Where such systems are permitted, the PCWS design, construction, and operation should be closely monitored.

NATURAL AREAS PRESERVATION AND PARK DEVELOPMENT

As noted in Chapter 4 (Physiographic Characteristics), Bridgewater Township has an abundance of natural features that should be protected for future generations. However, some programs and methods designed to preserve natural areas have the potential for unintended consequences for the Township.

The Washtenaw County Parks and Recreation Commission (WCPRC) has established two "nature preserves" in Bridgewater Township as part of their Natural Areas Preservation Program (NAPP). Under NAPP, the county purchases unique natural areas with ecological, recreational, and educational benefits; which are opened for public access and managed by the Washtenaw County Parks & Recreation Commission.

Where challenges have arisen is in the different understanding between the Township and county of what activities should be permissible in a nature preserve, and with the extent or lack of security and oversight of activities within these areas. For the Township, a nature preserve is intended to protect and preserve lands in their natural state. The WCPRC has indicated a preference to develop such sites with more intensive park amenities such as kiosks, signage, buildings, observation decks, and boardwalks, which are beyond the Township's preferred scope of use for a nature preserve. The more intensive use also has the potential to create security, trespass, and other nuisance conditions that may affect neighboring properties if the sites are not regularly patrolled and secured.

The significant natural features of the Township can be preserved through private ownership, voluntary conservation easements, and similar methods that do not have the potential for unintended consequences. Where nature preserves with public access have been provided, adequate maintenance and law enforcement resources should be available to ensure that such facilities do not become an attractive nuisance or adversely impact Township residents. Any future facilities of this type should not be located near existing residences and planned rural residential areas of the Township.

Specific policy recommendations related to natural features are found in Chapter 6 (Goals, Objectives, and Policies).

Chapter 6 GOALS, OBJECTIVES, AND POLICIES

This chapter presents the goals and objectives that have been developed to provide a strong and coherent direction for the future of Bridgewater Township. Goals are typically general statements about the quality and character of the community, which form the basis for measurable land use and development-related objectives and policy recommendations that can be prioritized and implemented by Township officials.

The following policy recommendations reflect a balance between the public purposes inherent in planning for the long-term future of the Township with the rights of private property owners to develop an appropriate use of their land, and are intended over time to result in a specific quality and character for the community. The goals and objectives have evolved from the desire to remedy existing problems, to maintain positive features, and to provide an attractive and functional community environment in the future.

Other benefits of establishing these goals, objectives, and policy recommendations include:

- **Consistency** - A comprehensive list of statements concerning a variety of planning issues can help avoid arbitrary decision-making in the future.
- **Efficiency** - Clearly stated policy options may help reduce time spent on deliberation, while providing sound planning principles to assist decision-making.
- **Coordination** – The Master Plan provides a framework to guide land use actions by the Township Board, Planning Commission, and the public.
- **Defensibility** – The goals, objectives, and policies of this Master Plan are necessary to provide a strong legal foundation for local land use controls such as zoning. Clearly stated land use and development policies, along with consistent implementation by the Township, can be essential to success if the Township's zoning and land development ordinances or decisions are challenged in court.

COMMUNITY CHARACTER

Goal: Maintain Bridgewater Township's rural character.

Objective: Preservation of the rural, agricultural, and historic characteristics of Bridgewater Township.

Policy Recommendations:

- ☐ Consider the "Agricultural and the Rural Economy" goals, objectives, and policy recommendations first when making land use and development decisions.
- ☐ Inventory significant historic buildings and features in the Township and promote the preservation and re-use of historic barns and other historic structures for activities compatible with the Township Zoning Ordinance.

- ☐ Preserve scenic rural and agricultural views along the US-12 state highway, public road rights-of-way.
- ☐ Encourage preservation/use of native vegetation as part of new development.
- ☐ Continue to improve Township code enforcement efforts to ensure compliance with Township ordinance and standards.

Objective: New development that is compatible with the Township’s predominantly agricultural character.

Policy Recommendations:

- ☐ Provide for adequate buffer areas between new non-farm development and agricultural zoning districts/land uses in the Township Zoning Ordinance.
- ☐ Cluster new non-residential development within the Bridgewater Hamlet.
- ☐ Discourage land divisions that would remove prime or active agricultural land from production, and that would result in incompatible non-farm land uses in close proximity to active farmland.

AGRICULTURE AND THE RURAL ECONOMY

Goal: Support stable agricultural areas and operations in the Township.

Objective: The continuation and growth of a vibrant, agricultural-based economy that is consistent with Bridgewater Township’s rural character.

Policy Recommendations:

- ☐ Encourage non-farm residential development to be located away from prime agricultural land and active farm operations.
- ☐ Encourage the use of the Planned Unit Development option and incentives for clustering of new residential development in the Township Zoning Ordinance to minimize land consumption and preserve open space.
- ☐ Consider the PUD option for transfer of development rights (TDR) from land to be permanently conserved for agricultural uses to land areas around the Hamlet planned for future development served by public sewer.
- ☐ Promote the option for farmers to diversify their income sources through “value added” agricultural activities consistent with Township Zoning Ordinance standards, such as corn mazes, ‘U-pick’ operations, direct marketing of farm products to restaurants and local stores, roadside stands, local farm markets, and farm-based bed and breakfast inns.

- ❑ Encourage seasoned farming experts in the Township to become mentors to young men and women interested in agriculture.
- ❑ Consider the creation of a farm incubator program or other cooperative effort to help young farmers get started in agriculture.

Objective: Maintenance of the Township’s rural environment and appearance, preservation of the private ownership of farmland, and protection of the groundwater, soils, and other natural resources that support agricultural activities.

- ❑ Adopt a Capital Improvements Plan that allocates no funds for paving roads serving agricultural lands or extending public sanitary sewer lines into designated agricultural preservation areas.
- ❑ Encourage Township property owners of agricultural land to work with private nonprofit land trusts and conservancies with the power to buy development rights and establish private conservation easements.
- ❑ Discourage removal of land from private ownership and further expansion of the Washtenaw County Natural Areas Preservation Program (NAPP) in the Township.
- ❑ Discourage farm-based ethanol production.

HOUSING

Goal: Maintain residential development that meets the needs of Township residents and preserves Bridgewater’s rural character.

Objective: Residential development that preserves open space and enhances the rural environment and appearance of the Township.

Policy Recommendations:

- ❑ Require higher density residential development to be located in the Bridgewater Hamlet and served by the Township’s public sanitary sewerage system.
- ❑ Discourage higher density residential development adjacent to the Village of Clinton, consistent with the Village’s established policies for new growth and expansion of the Village only within Lenawee County.
- ❑ Require pre-application meetings with developers to discuss required standards and available options for development.
- ❑ Encourage the use of the Planned Unit Development option and incentives for clustering of new residential development in the Township Zoning Ordinance.

Objective: Maintenance and improvement of Bridgewater Township’s housing stock.

Policy Recommendations:

- ❑ Consider housing-related goals, objectives, and strategies first when making land use and development decisions.
- ❑ Inventory significant historic residences in the Township, and encourage property owners to participate in Washtenaw County’s historic preservation program.
- ❑ Inventory foreclosed, abandoned, bank-owned, and similar distressed properties in the Township, including a current list of the individuals or entities responsible for maintenance.
- ❑ Request that the Township’s ordinance enforcement officer periodically review such distressed properties for blight conditions or ordinance violations.
- ❑ Encourage low income homeowners and elderly residents in need of assistance to dial “211” to access Washtenaw County’s current list of non-profit organizations and volunteer agencies that may be able to assist with necessary home or property maintenance issues that would otherwise result in ordinance violations.
- ❑ Encourage low and moderate income homeowners to make use of public and private programs, including Washtenaw County’s home weatherization and home rehabilitation programs, to upgrade obsolete infrastructure, improve energy efficiency, and correct structural deficiencies.
- ❑ Consider adopting a rental housing inspection ordinance to require periodic inspection and re-certification of rental properties in the Township for compliance with the building, electrical, plumbing, mechanical, and property maintenance codes enforced for the Township by the Western Washtenaw Construction Authority.

COMMERCIAL AND INDUSTRIAL

General goals, objectives, and policies for commercial and industrial land uses are provided below. More specific goals, objectives, and policies for the Hamlet are found in Chapter 8 (Bridgewater Hamlet Area Plan).

Goal: Maintain small commercial operations that meet the needs of Township residents and do not detract from the Township’s rural character.

Objective: New commercial and industrial development that is compatible with the community’s rural character.

Policy Recommendations:

- ❑ Concentrate future commercial development near the Bridgewater Hamlet, and encourage commercial development that will complement, not compete with or duplicate the adjacent commercial centers of Saline, Manchester, and Clinton.

- ☐ Support locally-owned and operated businesses in the Township, and the addition of compatible new commercial and light industrial operations in the Bridgewater Hamlet.
- ☐ Promote the reuse of historic structures in the Hamlet consistent with Township Zoning Ordinance standards.
- ☐ Use the commercial goals and objectives as guidelines when considering for commercial rezoning petitions.
- ☐ Discourage suburban-style strip commercial zoning or development along US-12.
- ☐ Prohibit new billboards and discourage the use of electronic message boards and other signs that would distract drivers and impair safety along US-12 and the county primary roads in the Township.
- ☐ Encourage residents to make prudent use of the home occupation provisions of the Zoning Ordinance to start and grow small businesses in the Township.
- ☐ Encourage the growth of a cluster of light industrial business operations within the Bridgewater Hamlet, with special focus on agricultural research facilities, farm implement repair and servicing, and other agricultural support services.
- ☐ Require strict adherence to the use standards of the Zoning Ordinance when reviewing special land use permit applications for more intensive industrial operations.
- ☐ Discourage development of intensive commercial or industrial operations that would create any dangerous, injurious, noxious or otherwise objectionable element or condition.

NATURAL FEATURES

Goal: Maintain natural features and open space for the enjoyment of current and future residents.

Objective: Encourage development to occur in a manner that will preserve open space and protect valuable natural features.

Policy Recommendations:

- ☐ Inventory and map sensitive wildlife habitat and native plants in the Township.
- ☐ Implement the natural features preservation provisions of the Township Zoning Ordinance to protect and conserve important natural resources and fragile lands such as wetlands, woodlands, steep slopes, floodplains, groundwater recharge areas, native plants and sensitive wildlife habitat.

- ❑ Encourage the use of the Planned Unit Development option in the Township Zoning Ordinance to minimize land consumption and preserve natural features within a development site.
- ❑ Consider the PUD option for transfer of development rights (TDR) from land with significant natural features to be permanently conserved through a private conservation easement to land areas around the Hamlet planned for future development served by public sewer.

Objective: Private conservation of open space and natural features in the Township.

Policy Recommendations:

- ❑ Encourage owners of land along rivers or streams or that has significant natural features to work with private nonprofit land trusts and conservancies with the power to buy development rights and establish private conservation easements to preserve such features for future generations.
- ❑ Discourage removal of land from private ownership and further expansion of the Washtenaw County Natural Areas Preservation Program (NAPP) in the Township.

Objective: Maintenance of land with significant natural features primarily under private ownership and control.

Policy Recommendations:

- ❑ Continue to work with the Washtenaw County Parks and Recreation Commission and the County Sheriff's Office to ensure regular patrol and maintenance of the county's established nature preserves.
- ❑ Encourage the Washtenaw County Parks and Recreation Commission to consider Township input and direction for prudent use of Natural Areas Preservation program (NAPP) resources to ensure that future county nature preserves do not become an attractive nuisance or adversely impact Township residents.
- ❑ Prohibit future county nature preserves near existing residences and planned rural residential areas of the Township.
- ❑ Discourage development of county nature preserves or other Washtenaw County Parks and Recreation Commission facilities with more intensive park amenities such as kiosks, signage, buildings, observation decks, and boardwalks.

TRANSPORTATION

General goals, objectives, and policies for transportation, traffic, and circulation are provided below. Also see Chapter 9 (Transportation Plan).

Goal: Maintain a transportation network that facilitates efficient circulation while reinforcing the Township’s rural character.

Objective: Maintenance of the Township’s network of unpaved roads in a manner compatible with the Township’s rural character, safe driving conditions, and adequate access in all seasons.

Policy Recommendations:

- ☐ Pursue designation of natural beauty road status for appropriate Township roads.
- ☐ Work proactively with the Washtenaw County Road commission to control dust on unpaved roads as an alternative to road paving.

Objective: Improve traffic circulation patterns and alleviate potential traffic hazards.

Policy Recommendations:

- ☐ Explore possible measures to correct safety deficiencies and slow traffic along the Township’s paved roads.
- ☐ Work with law enforcement personnel serving the Township to achieve more effective police patrol along county primary roads and US-12.
- ☐ Consider road improvements where unpaved roads intersect with paved roads.
- ☐ Explore access management techniques, as indicated in Chapter 9 (Transportation Plan), to improve safety on roads within the Township.
- ☐ Work with the Washtenaw County Road Commission to reconfigure county roads within the Bridgewater Hamlet consistent with the recommendations of Chapter 8 (Bridgewater Hamlet Area Plan).

Objective: Improve access to transportation for all Township residents.

Policy Recommendations:

- ☐ Consider the future need for an expanded “Dial-A-Ride” type service for Township residents who no longer can drive themselves or have limited access to private transportation.
- ☐ Work with the Washtenaw County Road Commission to address the needs and safety of bicyclists along Austin Road, Clinton Road, and Schneider Road as future road improvement projects are planned and implemented.

Objective: Minimize impacts on the Township’s public road network from more intensive residential development.

Policy Recommendations:

- ❑ Where an abutting county public road is in fair or poor condition, the permitted dwelling unit density for any new residential development accessing that road should be adjusted proportionally downward. Allowances should be made where the county Road Commission approves plans for necessary road improvements.
- ❑ The Planned Unit Development (PUD) review process should be followed for new residential development abutting any unpaved gravel road.

Chapter 7 LAND USE PLAN

This chapter is intended to link the Township's overall goals with specific land use recommendations by providing recommendations for the future use of land within Bridgewater Township. The formulation of this land use plan was based on the goals and objectives detailed in Chapter 6 (Goals, Objectives, and Policies), along with additional factors that include regional influences, existing land use patterns, significant natural features, the demographics of the Township, and the need for various land uses.

LAND USE CLASSIFICATIONS

The following describes the land use classifications designated on the land use plan **Maps LUP1 through LUP 3** of this chapter, and **Map LUP 4** found in Chapter 8 (Bridgewater Hamlet Area Plan). These land use plan maps are intended to show generalized land use, and are not intended to indicate precise size, shape or dimension.

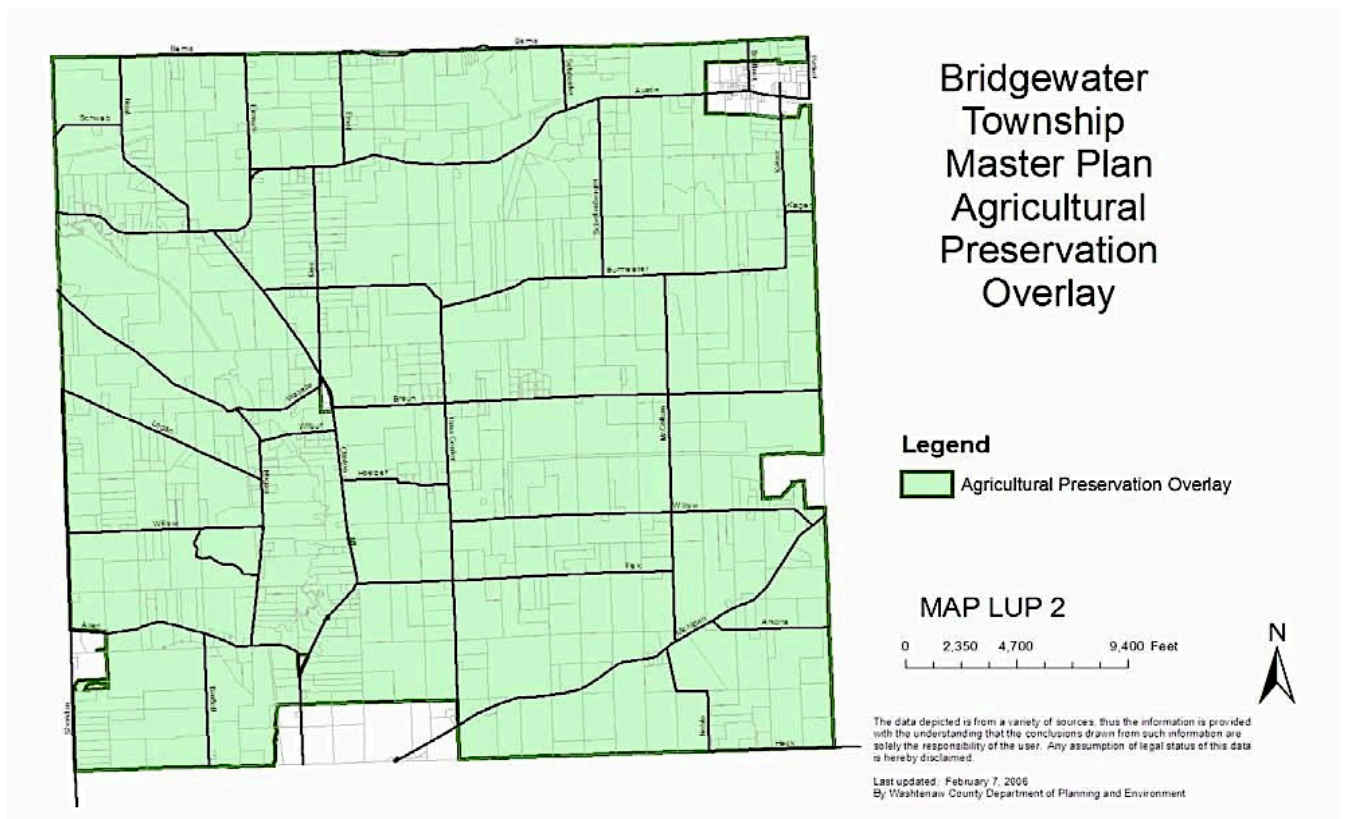
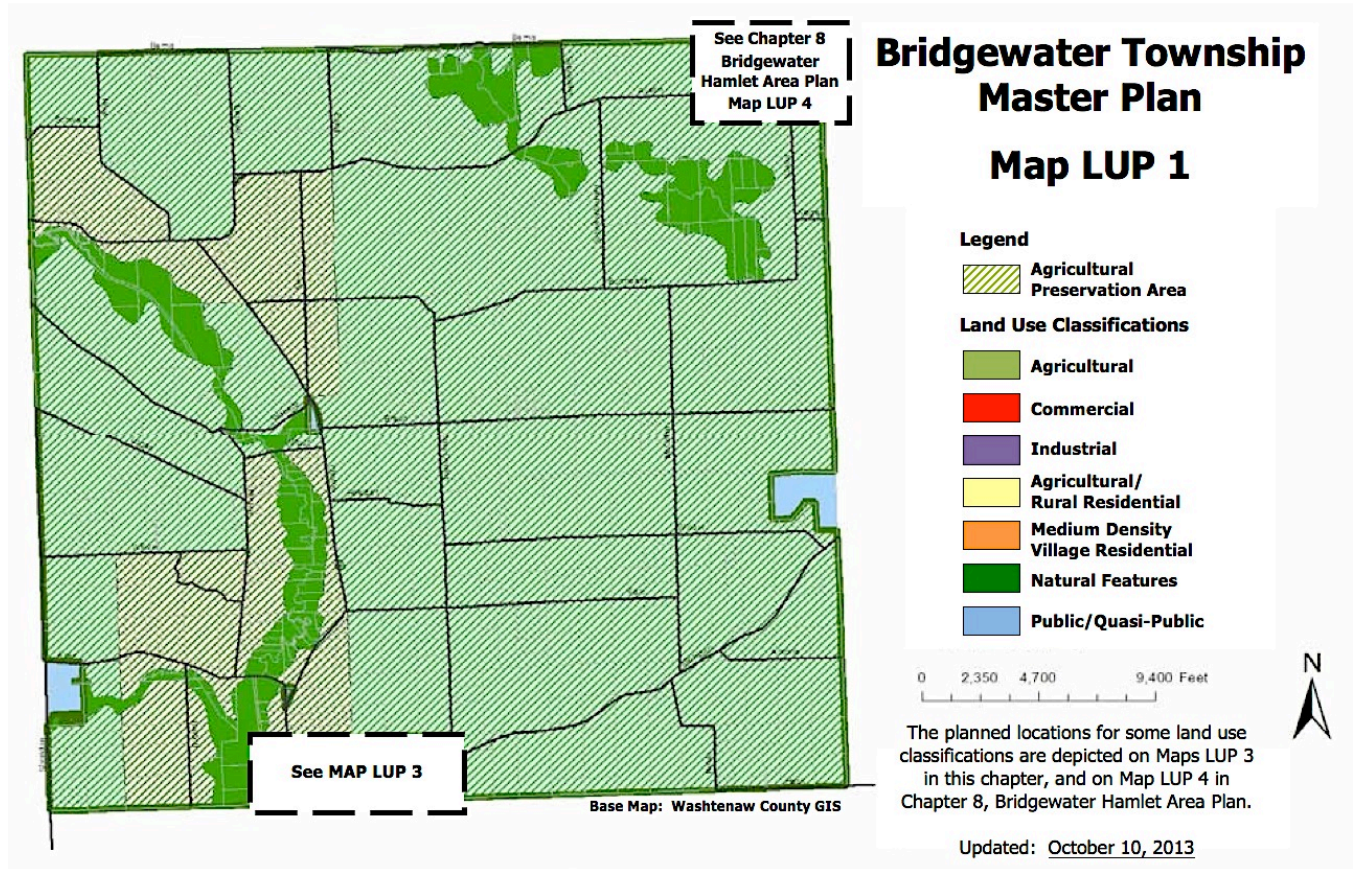
The recommendations of this land use plan also have a long-range planning horizon and do not necessarily imply that a particular near-term rezoning is appropriate. Phasing in of any changes to the Township's Official Zoning Map should be consistent with this land use plan; the goals, objectives, and policy recommendations contained in Chapter 6, and the implementation and phasing guidelines contained in Chapter 10 (Zoning Plan). Land uses in the Bridgewater Hamlet are further subject to the policies of the Bridgewater Hamlet Area Plan, which are detailed in Chapter 8 of this document.

Table 7-1 Land Use Classifications

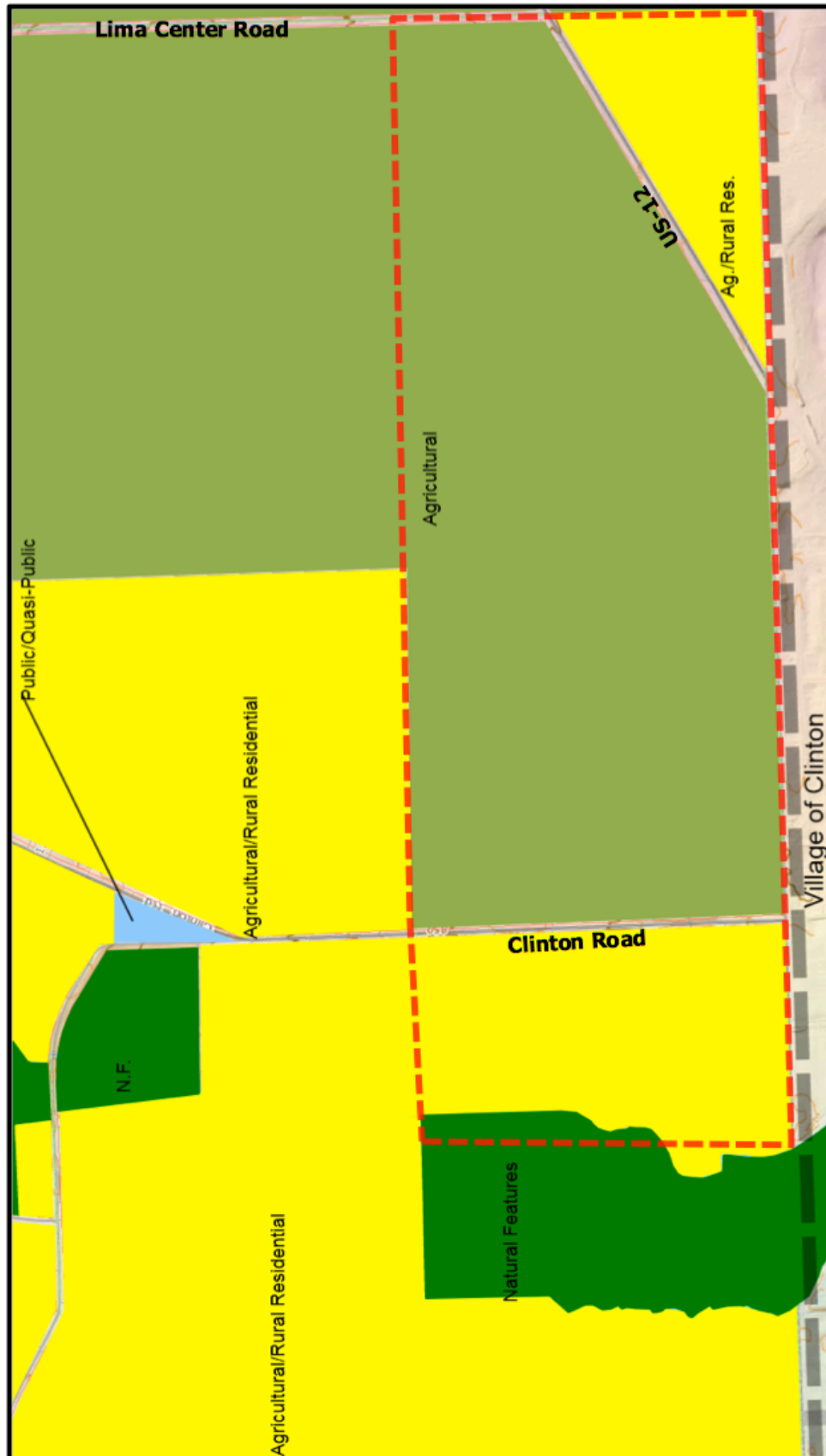
Classification	Description
Agricultural	<p>This land use classification is intended primarily to accommodate agricultural land uses and very low density residential uses consistent with the rural and agricultural character of the area. Agricultural land uses would be characterized by traditional cash crops, fruits, and vegetables; raising of livestock and poultry; equestrian activities, nurseries and greenhouses; and similar uses. Farm-based tourism and entertainment activities and limited business uses may also be appropriate, where specific development standards are provided.</p> <p>Anticipated dwelling unit density within the Agricultural classification is 0.5 dwelling units per acre.</p>
Agricultural/ Rural Residential	<p>This land use classification is intended to accommodate low density single-family residential uses consistent with the rural and agricultural character of the area. Existing lots of record that are at least 20 acres in size are intended for agricultural preservation. Residential care facilities and limited outdoor recreation uses may also be appropriate in such areas when specific development standards are provided.</p> <p>Anticipated dwelling unit density within the Agricultural/Rural Residential classification is 1.0 dwelling units per acre.</p>

Table 7-1 Land Use Classifications

Classification	Description
Medium-Density Village Residential	<p>This land use classification is intended to accommodate primarily medium-density residential uses that are in keeping with the desired character of the Hamlet, as expressed in Chapter 8 (Bridgewater Hamlet Area Plan). This would include a mix of single-family homes on smaller lots, two-family dwellings, and attached townhouse/multiple-family residential uses. In addition to land shown on Map LUP 4 in this classification, any land within the Hamlet's Sewer Use District (see Map 8-2) not otherwise classified on Map LUP 4 shall be designated for future Medium-Density Village Residential land uses.</p> <p>Anticipated dwelling unit density within the Medium-Density Village Residential classification ranges from 4.0 dwelling units per acre for single-family dwellings and 5.0 dwelling units per acre for two-family dwellings to 7.0 dwelling units per acre for attached townhouse/multiple-family residential uses.</p>
Commercial	<p>This land use classification is intended to accommodate the convenience shopping, food service, office, and personal service needs of the Township and the surrounding community. Development in these areas should be consistent with the Township's rural character and, where appropriate, the desired character of the Bridgewater Hamlet as expressed in Chapter 8 (Bridgewater Hamlet Area Plan).</p>
Industrial	<p>This land use classification is intended to accommodate light industrial, research and technology based activities, professional and technical office uses, and warehousing and distribution operations. Such uses should be compatible with the Township's natural features, and consistent with the Township's rural character and, where appropriate, the desired character of the Bridgewater Hamlet as expressed in Chapter 8 (Bridgewater Hamlet Area Plan).</p>
Public/Quasi-Public	<p>This land use classification is intended to accommodate publicly-owned and operated facilities, places of public assembly, and private, non-profit or religious facilities that provide a public service to populations in and around the Township, such as churches, cemeteries, schools, government buildings, auditoriums, and outdoor recreation areas and facilities.</p>
Natural Features	<p>This land use classification is intended primarily for areas dominated by significant natural features, such as rivers, lakes, wetlands, and dense woodlands. The intent of this classification is to ensure the preservation of these natural features to the maximum extent feasible. Uses and any physical improvements in these areas should be very low-impact, and consistent with the Township's rural character. Such areas should be maintained as nearly as possible in their natural condition, with minimal disturbance and generally not occupied by structures, roads, or other manmade elements. Hunting, fishing, hiking, and related seasonal outdoor activities should be encouraged.</p>

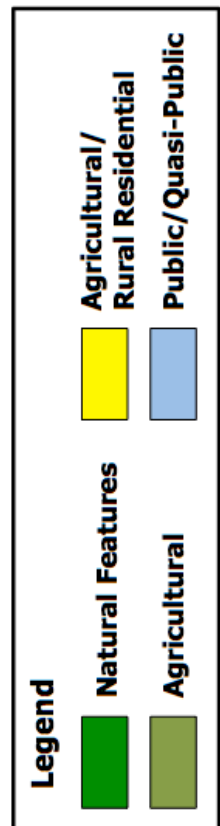


Bridgewater Township Master Plan – Map LUP 3



Base Map: Washtenaw County GIS

Approximate extent of high-density residential & commercial area shown on the 2006 Master Plan



AGRICULTURAL PRESERVATION AREA

The Agricultural Preservation Overlay Map (**Map LUP 2** on page 7-3) is presented to indicate areas in the Township where preservation of agricultural land is supported. The following land use classifications are included:

- Agricultural
- Natural Features
- Agricultural/Rural Residential

The Agricultural Preservation Area was selected to include areas of prime agricultural land outside of any planned public water and sewer service areas. Most of Bridgewater Township has Class II soils, according to the United States Department of Agriculture's Soil Conservation Service, which are the highest ranking soils for crop production in Washtenaw County. To encourage and support existing agricultural operations in the Township, the Agricultural Preservation Area also includes land that is currently farmed, as well as vacant land suitable for active agricultural production.

Bridgewater Township's rural and scenic character derives primarily from agricultural activities.



Because non-farm dwellings on scattered lots can interfere with the sustainability of the area for farm operations, the Agricultural Preservation Area primarily includes contiguous parcels of land where the predominant use is agricultural.

Parcels of land that are at least 20.0 acres in size in the Agricultural/Rural Residential classification are also intended for agricultural preservation. The methods of land preservation include the purchase or transfer of development rights consistent with applicable state laws and Township ordinances. Enrollment of land in the State of Michigan's "P.A. 116" farmland protection program also serves the purpose of preserving agricultural land for a limited time.

The designation of the Agricultural Preservation Area was done with the support of Township residents and property owners, as evidenced by their opinions in the Township survey and input provided at the visioning session. This designation furthers the Township's goals of supporting stable, long-term agricultural operations and agricultural support services; and to qualify the area for the State of Michigan's Agricultural Preservation Fund program.

Fallow fields suitable for agricultural production but not currently under cultivation.



ADDITIONAL LAND USE RECOMMENDATIONS

The following are additional recommendations associated with the future use of land within Bridgewater Township, based on or derived from the goals and objectives detailed in Chapter 6 (Goals, Objectives, and Policies):

Community Character and Agriculture Uses

“Agriculture defines Bridgewater Township.”

Bridgewater Township’s rural and scenic character and small hometown feel are valued by the community and should be maintained. This character is derived primarily from agricultural activity, while the historic Hamlet of Bridgewater and abundant natural features such as woodlands, wetlands, rivers, and small lakes also play a role.

The climate, variety of soils, and terrain cause the Township to be well-suited to a wide variety of row crops, specialty crops, and livestock; including many farm products available direct to the consumer. Farmland is an important part of the Township’s natural and agricultural heritage. For these and related reasons, **Map LUP 2** designates the large majority of the Township’s land area as part of the Agricultural Preservation Area.

The agricultural industry in Bridgewater Township

Why Should Agricultural Land Be Preserved?

In a 2005 survey of Township property owners and registered voters, seventy percent (70%) of respondents indicated that protective measures are needed, and seventy-three percent (73%) said the Township should require farmland or open space preservation in connection with new single-family residential development.

Land suitable for farming is an irreplaceable natural resource with soil and topographic characteristics that have been cultivated and enhanced through generations of agricultural use. When such land is converted to residential or other develops uses that do not require those special characteristics, a critical community resource is permanently lost to the Township.



provides the opportunity to harvest locally grown foods to sell at roadside stands, farm markets, local retail food stores, and other local outlets in the area. Agriculture in Bridgewater Township produces a notable array of products from corn and soybeans to vegetables and fruit. The Township’s agricultural acreage contributes tens of thousands of dollars to the local economy in direct sales of agricultural products from the farm, as well as supporting local and regional agricultural support services and associated business operations.

Bridgewater Township is a desirable place to live, work and visit in large part because of the availability of farmland and the relief from urban landscape that

agricultural fields bring. Agricultural operations and the associated scenic views and rural open spaces are considered invaluable physical, cultural, and aesthetic resources that should be preserved.

Residential Land Uses

"New development should minimize land consumption and preserve open space and farmland."

The land use plan defines two residential land use classifications for the purpose of meeting the diverse housing needs of the community (in addition to the Agricultural classification, which allows some non-farm dwellings):

- Agricultural/Rural Residential
- Medium-Density Village Residential

Open Space or Cluster Development Option vs. "Traditional" Suburban Development Patterns

Typical traditional development results in the erosion of rural character due to an interruption in the visual landscape and the loss of agricultural land. When applied at a rural scale, conversion of large parcels to rural residential use can result in lots that may be described as "too small to plow but too large to mow."

The open space preservation or clustering option preserves rural character without reducing the number of permitted dwelling units allowed on a particular parcel, by reserving a minimum percentage of the site (typically fifty percent (50%) or more as permanently preserved agricultural land or open space, while reducing the required minimum lot area for each dwelling by the same percentage.

Examples of the "traditional" suburban development patterns and the alternative open space or cluster development option can be compared on the following page.



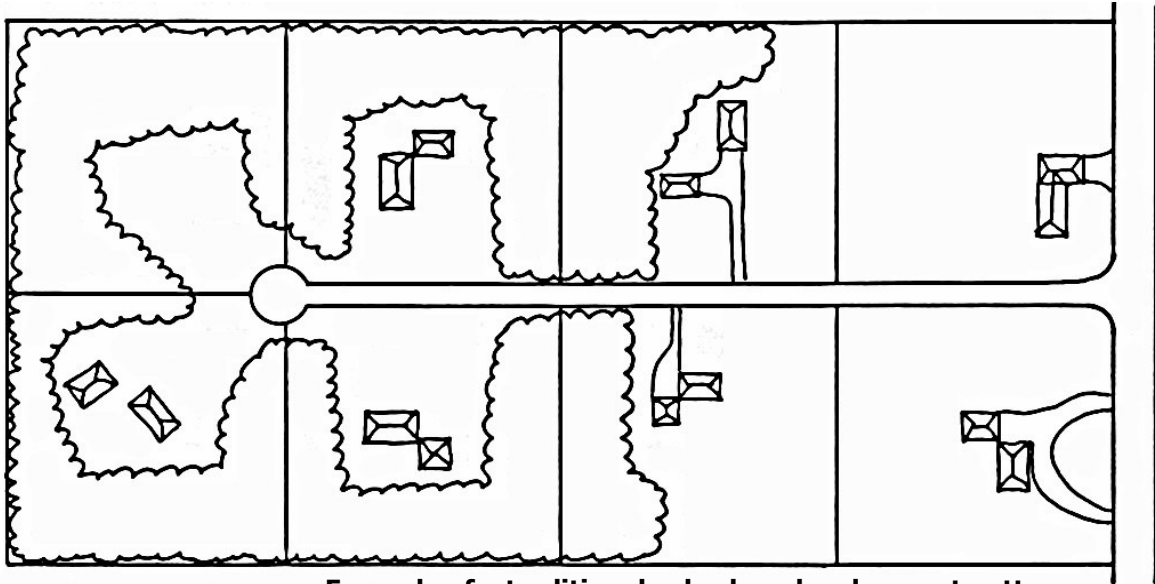
Examples of historic farm dwellings in the Township.

Agricultural/Rural Residential.

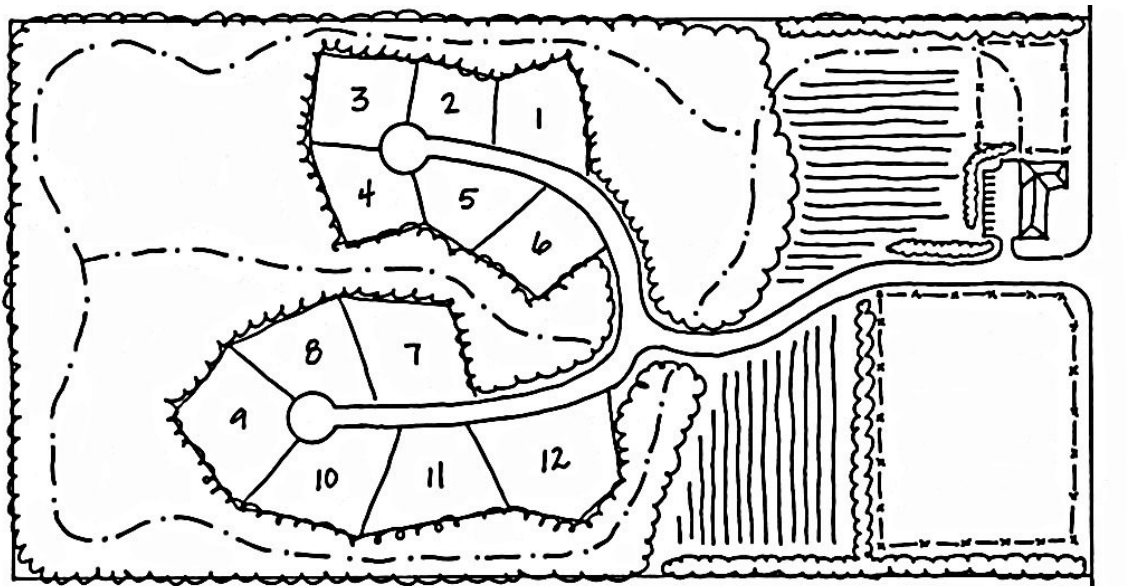
The land use plan **Maps LUP 1** and **LUP 3** designate as Agricultural/Rural Residential much of the land in the western portion of the Township near Clinton Road, plus a portion of the land area south of the US-12 state highway, east of the Village of Clinton and adjacent to the Lenawee County line.

These areas are intended to accommodate low-density residential development consistent with the Township's rural character, and compatible with surrounding agricultural uses and natural features.

Such areas should be developed in a manner that encourages preservation of active farmland, rural open space, and scenic views from adjoining public roads through the open space preservation or cluster development options in the Zoning Ordinance.



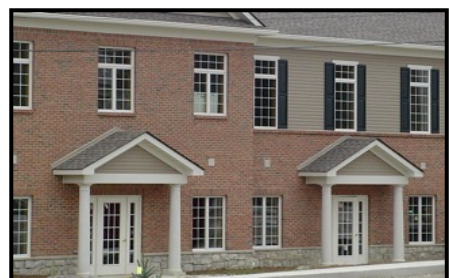
Example of a traditional suburban development pattern.



Example of an open space preservation or cluster development, including preservation of significant natural features and active agricultural areas.

Medium-Density Village Residential.

The land use plan **Map LUP 4** designates selected areas within the Bridgewater Hamlet served by the Township's public sanitary sewage treatment and disposal system as Medium Density Village Residential, which includes small lot single-family homes as well as certain types of attached and multiple-family housing. See Chapter 8 (Bridgewater Hamlet Area Plan) for the specific development policies associated with these more intensive residential land uses.



Example of a multiple-family residential development.

Manufactured Housing Park Residential Development.

A separate designation for manufactured housing park development has not been provided for on the land use plan maps. Consistent with the housing-related goals and objectives expressed in Chapter 6 (Goals, Objectives, and Policies), the Township has made the following findings and established the following land use and development policies with regards to manufactured housing park residential land uses and development:

1. The Township has provided, both in this plan and in the Township Zoning Ordinance, for a variety of housing types to serve the needs of current and future Township residents.
2. As noted above and in Chapter 6, it is the intent of this plan that higher density housing development be limited to selected areas within the Bridgewater Hamlet that can be adequately served by the Township's public sanitary sewage treatment and disposal system.
3. Based on predominant soil conditions, there is a limited availability of land suitable for the types of private community wastewater treatment systems commonly used by manufactured housing parks where public sewerage systems are not available.
4. Limited public sanitary sewerage service is only available within the area of the Bridgewater Hamlet. Because of the design limitations imposed by the Michigan Manufactured Housing Commission's General Rules, a manufactured housing park development would not be compatible with the historic character and development pattern of the Hamlet, or the Bridgewater Hamlet Area Plan (Chapter 8 of this plan).
5. There are at least six (6) existing manufactured housing park developments in the vicinity of Bridgewater Township, located in the adjoining communities of Saline Township and Freedom Township, and in the City of Saline and the villages of Clinton and Manchester.
6. As noted in Chapter 2 (Demographics), the Southeastern Michigan Council of Governments (SEMCOG) has projected a nearly flat population growth trend for Bridgewater Township through the year 2040.

Based on these findings, the Township has determined that there is no demonstrated need for additional manufactured housing park development sites in the Township, and that the existing supply of such dwelling units in the surrounding area is more than adequate to meet population projections for the Township.

This issue should be re-examined at least every five (5) years as part of the plan review required by the Michigan Planning Enabling Act (Public Act 33 of 2008, as amended), and this policy adjusted if determined necessary by the Township at that time.

Commercial Land Uses

“Commercial uses must blend with the Township’s rural character.” The land use plan maps designate the Bridgewater Hamlet as the primary location for future convenience commercial and small office uses intended to serve area residents and visitors. Such uses are not intended to compete with established commercial centers in the surrounding region.

At the present time there is no demonstrated need for any general commercial development, large-scale comparison retail or highway-oriented commercial uses within Bridgewater Township. The need for more intensive, general and highway commercial land uses is being amply met by existing commercial developments and centers in the vicinity of Bridgewater Township, located in and around the City of Saline and the villages of Clinton and Manchester.

Similarly, the need for general commercial development to serve the needs of future residential development in the Township over the next five years can also be amply met by existing commercial centers in adjoining communities. It is also not likely that significant general commercial development in the Township could challenge the market dominance of these existing commercial centers. It is not sound regional planning policy to encourage duplication of services that can result in vacant office and retail space, as well as unnecessary expansion of expensive infrastructure.

This issue should be re-examined at least every five (5) years as part of the plan review required by the Michigan Planning Enabling Act (Public Act 33 of 2008, as amended), and this policy adjusted if determined necessary by the Township at that time. See Chapter 8 (Bridgewater Hamlet Area Plan) for the specific development policies associated with commercial land uses.

Industrial Land Uses

“Industrial uses must have minimal negative impacts on surrounding areas.” The land use plan maps designate the Bridgewater Hamlet as the primary location for future industrial land uses in the Township. Such uses are intended to be light industrial or research and development type establishments, such as warehousing with accessory office and research or testing facilities. Concentrating future light industrial uses in this area of the Township will likely be dependent upon availability and capacity of the Township’s public sanitary sewage treatment and disposal system.

In general, all industrial uses must be screened from adjacent residential and agricultural land uses, and such sites should be designed to have minimal negative impacts on surrounding areas. All uses should be carried out within completely enclosed buildings or, when limited outdoor storage is provided, with appropriate screening of storage areas from all property lines.

See Chapter 8 (Bridgewater Hamlet Area Plan) for the specific development policies associated with industrial land uses.

Natural Features

“Bridgewater’s natural features and scenic character must be preserved.”

The land use plan **Map LUP 1** identifies several areas that are dominated by significant natural features. To the maximum extent possible, areas within this classification should be preserved.



As noted in Chapter 6 (Goals, Objectives, and Policies), conservation of such areas should be primarily accomplished through private initiatives that maintain the land under private ownership and control. No part of such conservation efforts should inhibit the use of such land or surrounding parcels for hunting and fishing purposes.



Development of residential uses on surrounding land should be clustered to preserve open space and should be in keeping with the intent of the Natural Features classification.

RURAL ECONOMIC DEVELOPMENT STRATEGIES

Chapter 6 (Goals, Objectives, and Policies) includes a number of goals related to the future economic conditions of Bridgewater Township. To achieve these goals, the Township will focus on the following rural economic development strategies:

Bridgewater Hamlet

The Township will promote and encourage the development of the Bridgewater Hamlet area as the economic focal point of the Township, in accordance with the policies and desired character described in Chapter 8 (Bridgewater Hamlet Area Plan).

Rural Economic Development

The Township will continue to support and encourage the continuation and growth of a robust rural economy, including a network of agricultural support services and related businesses. The Township will also encourage farmers to diversify their income through development of value-added farm-based tourism and entertainment activities consistent with Zoning Ordinance requirements.

Home Occupations

There has been a revival in home entrepreneurship over the past decade. The expansion of broadband Internet and cellular telephone access, combined with significant changes in the character of American corporate workplaces makes home occupations, telecommuting, and "virtual offices" feasible, especially where broadband Internet and robust cellular telephone services are available (also see "Communication" below).

Home occupations are those where the entrepreneur works from home, and can, within certain limitations, be almost any type of business. Some develop as people perform services elsewhere, but use part of their home as an office. Many tend to be service or direct marketing/sales oriented, and an increasing number are Internet-based businesses. Starting up a new business from home offers cost savings, and may increase the potential for success.

The economic impact of a home-based business is like that of any other successful business operation, even if on a smaller scale. Sales of products and services generate income from which supplies, equipment, and labor are purchased and increased disposable income becomes available to spend in the Township. Since owners of home occupations work in the Township, it is likely that more purchases will also be made locally, which benefits other area businesses.

Recent updates to the “home occupation” provisions of the Township’s Zoning Ordinance have made it easier to operate a variety of small-scale home occupations accessory to a residential land use. The Township will continue to permit limited business activities that do not adversely impact the residential character of the property or surrounding neighborhood.

The Township will also encourage owners of highly successful and growing home occupations to relocate their operations to nearby commercial or industrial zoning districts, as appropriate.

Communication

Robust capacity and a variety of options for broadband Internet access and cellular telephone service should be available to Township residents and businesses. As such, the Township will encourage Internet providers to extend high capacity cable and fiber optic lines and infrastructure through the Township, and to provide broadband Internet access for all Township residents and businesses. The Township will also continue to encourage collocation of multiple antennae on existing cellular telephone towers, and construction of a limited number of new towers where necessary to provide complete coverage and a range of service providers to Township residents.

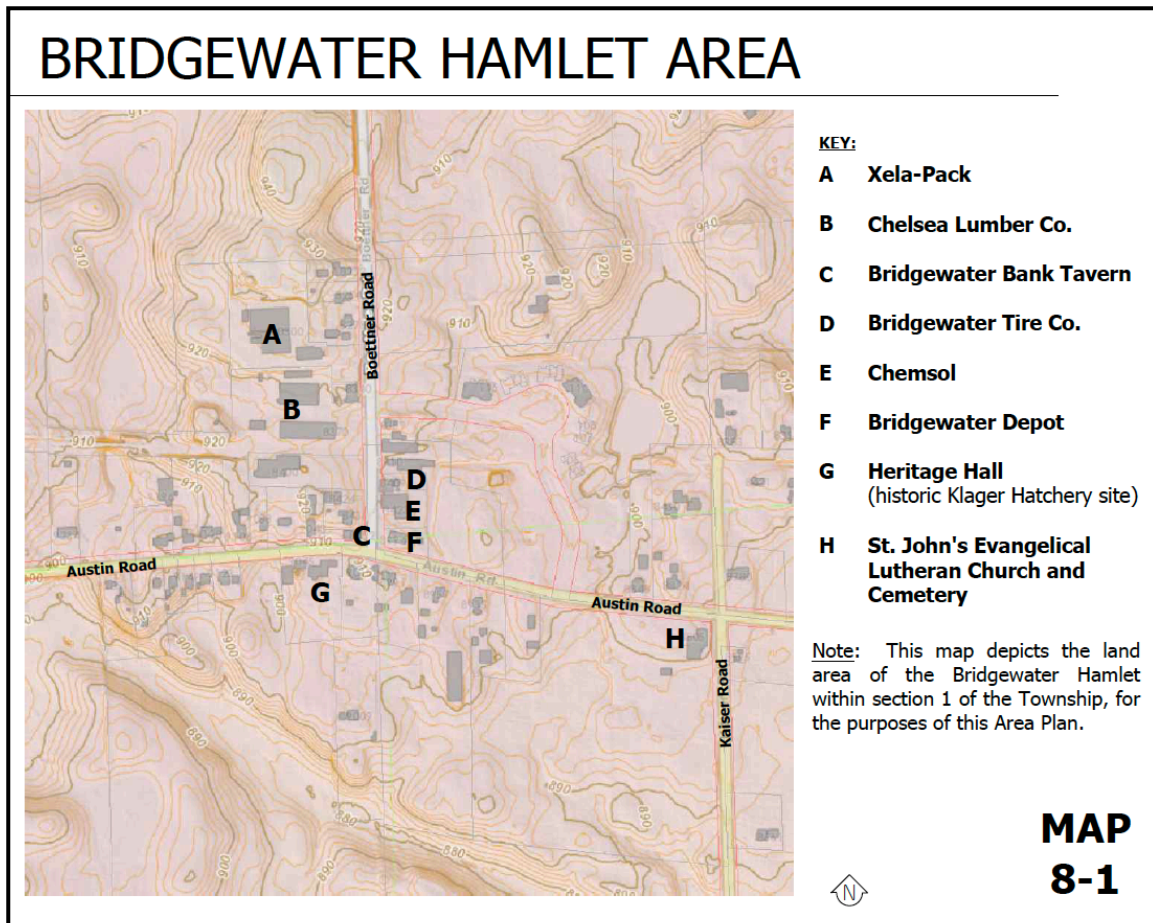
As noted in Chapter 8 (Bridgewater Hamlet Area Plan), the Hamlet area should be a first priority for extension and upgrading of these communication services.

CONCLUSION

This land use plan is a policy document intended to guide future Township decision-making with regards to land use and community development. It is intended to provide a clear link between the Township’s goals and objectives and specific land use recommendations. While the land use plan portrays the community’s vision for the future, implementation of this plan is the real key to achieving that vision. See Chapter 11 (Plan Implementation) for recommended implementation strategies.

Chapter 8 BRIDGEWATER HAMLET AREA PLAN

This chapter is intended to serve as an area plan for the historic Bridgewater Hamlet, which is located in section 1 of the Township, centered on the intersection of Austin Road and Boettner Road (see Map 8-1). It is a part of the overall Master Plan, but contains detailed policies for this specific area. In the event of a conflict between this area plan and the overall Master Plan, the policies in this chapter should control.



AREA PLAN DEVELOPMENT PRINCIPLES

The Bridgewater Hamlet Area Plan is the result of study of the planning area, meetings with Township officials and the Planning Commission, and an open house event to seek public input on the future of the Hamlet. This area plan also incorporates and is built upon the results of past Township surveys and relevant policy recommendations contained in the 2001 Master Plan. Throughout the development of this area plan, the general goals, objectives, and policy recommendations contained in Chapter 5 of this Master Plan have been used as a guide.

The primary purpose of this area plan is to preserve the distinctive character of the Hamlet, while encouraging some new growth. It is the intent of this area plan that any new development within the Hamlet area be based on the following principles:

1. Future growth in the Hamlet is to take place in a coordinated manner, with provisions for an integrated road network and pedestrian and vehicular connections between sites.
2. Future growth in the Hamlet is to take place in conjunction with Township utility plans and available capacity within the sanitary sewerage system serving the Hamlet.
3. Maintain the historical identity of the area as a rural hamlet with any new development.
4. Preserve and restore the exterior appearance and physical setting of historic structures to the maximum extent feasible.
5. Flexibility in types of land uses along the Austin Road and Boettner Road frontages within the Hamlet, consistent with the Hamlet's rural character and Township Zoning Ordinance requirements.
6. New roads and road improvements within the Hamlet area incorporate a village road cross-section (rather than the county's standard rural two-lane cross-section), and are designed for low speed travel.
7. The intersection of Austin Road and Boettner Road should remain the principal focal point of the Hamlet.
8. Each development proposal should be reviewed in terms of its relationship to the entire Hamlet area, in addition to existing site conditions and adjacent land uses.
9. Existing land uses in the Hamlet should be adequately screened from more intensive new development on adjacent land.
10. New development and improvements to existing buildings and sites in the Hamlet should include improved pedestrian and barrier-free access.

LAND USE CLASSIFICATIONS

The following table describes the land use classifications designated on Map LUP 4 on page 8-4. This land use plan map is intended to show generalized land use in the Bridgewater Hamlet, and is not intended to indicate precise size, shape or dimension. The recommendations of this area plan have a long-range planning horizon and do not necessarily imply that a particular near-term rezoning is appropriate. Phasing in of any changes to the Township's Official Zoning Map should be consistent with this area plan; Chapter 6 (Goals, Objectives, and Policies), and the implementation and phasing guidelines contained in Chapter 10 (Zoning Plan).






Land uses outside of the Hamlet area are subject to the policies of Chapter 7 (Land Use Plan).

Table 8-1 Land Use Classifications

Classification	Description
Medium-Density Village Residential	<p>This land use classification is intended to accommodate primarily medium-density residential uses that are in keeping with the desired character of the Hamlet. This would include a mix of single-family homes on smaller lots, two-family dwellings, and attached townhouse/multiple-family residential uses. In addition to land shown on Map LUP 4 in this classification, any land within the Hamlet's Sewer Use District (see Map 8-2) not otherwise classified on Map LUP 4 shall be designated for future Medium-Density Village Residential land uses.</p> <p>Anticipated dwelling unit density within the Medium-Density Village Residential classification ranges from 4.0 dwelling units per acre for single-family dwellings and 5.0 dwelling units per acre for two-family dwellings to 7.0 dwelling units per acre for attached townhouse/multiple-family residential uses.</p>
Mixed Commercial/Live-Work	<p>This land use classification is intended to accommodate the convenience shopping, food service, office, and personal service needs of the Township and surrounding community as noted in Chapter 7 (Land Use Plan). Development in these areas should be consistent with the desired character of the Hamlet.</p> <p>This classification includes commercial businesses, conversion of existing dwellings to low intensity commercial or office land uses, and new live/work arrangements with ground floor retail or office space and residential living space above. Where residential land uses are incorporated into a mixed-use development project in the Hamlet, the anticipated dwelling unit density shall be consistent with the Medium-Density Village Residential classification.</p>
Industrial	<p>This land use classification is intended to accommodate light industrial, research and technology based activities, professional and technical office uses, and warehousing and distribution operations carried out primarily within enclosed buildings. Such uses should be compatible with the Township's natural features, and consistent with the Township's rural character and desired character of the Hamlet.</p>
Public/Quasi-Public	<p>This land use classification is intended to accommodate publicly-owned and operated facilities, places of public assembly, and private, non-profit or religious facilities that provide a public service to populations in and around the Township, such as churches, cemeteries, schools, government buildings, auditoriums, and public and private outdoor recreation areas and facilities.</p>
Agricultural/Rural Residential	<p>This land use classification is intended to accommodate low density single-family residential uses consistent with the rural and agricultural character of the area. Existing lots of record that are at least 20 acres in size are intended for agricultural preservation. Residential care facilities and limited outdoor recreation uses may also be appropriate in such areas when specific development standards are provided. Anticipated dwelling unit density within the Agricultural/Rural Residential classification is 1.0 dwelling units per acre.</p>

BRIDGEWATER HAMLET AREA PLAN

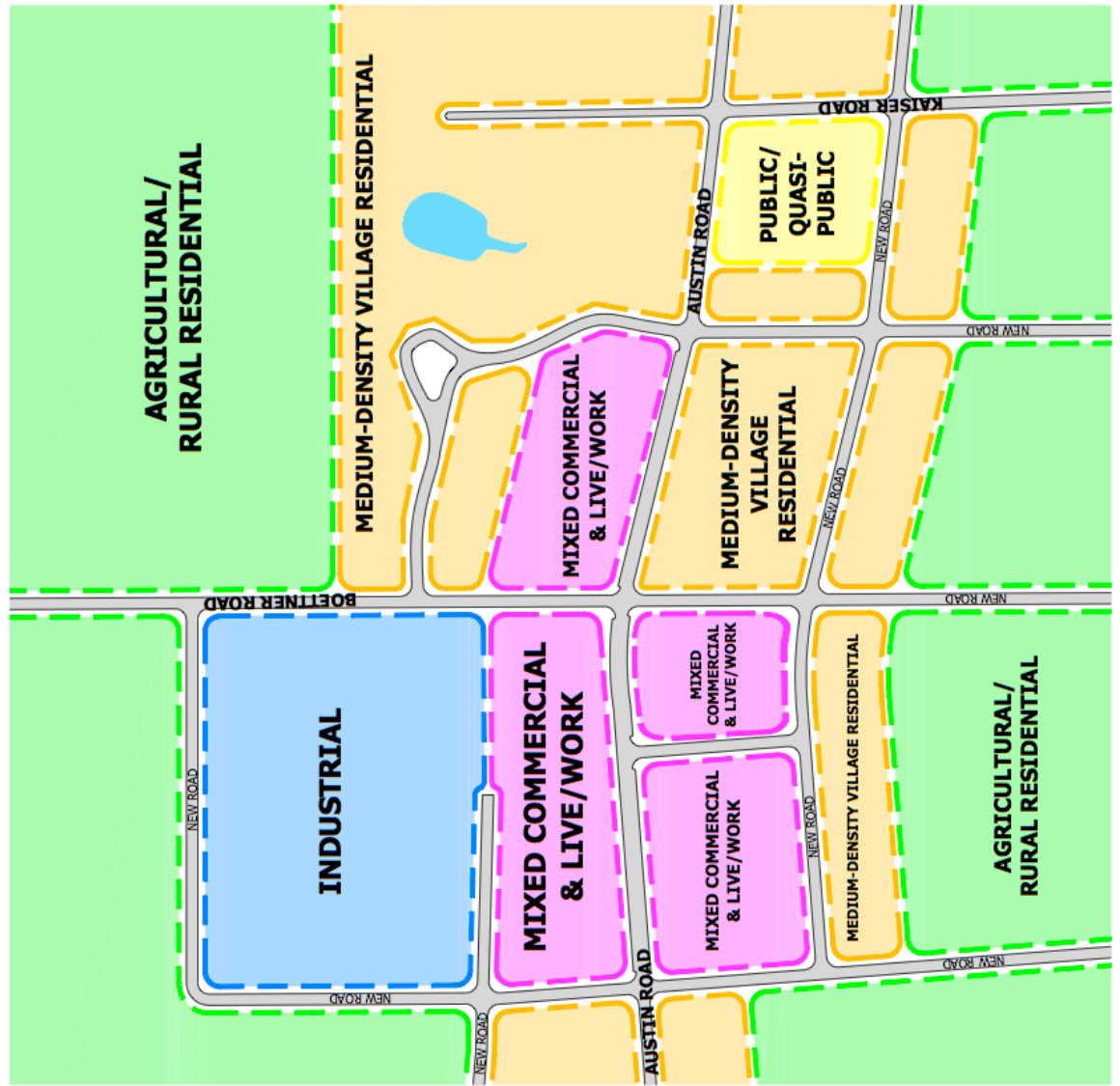
FUTURE LAND USES:

	Medium-Density Village Residential
	Mixed Commercial/Live-Work
	Industrial
	Public/Quasi Public
	Agricultural/Rural Residential

Note:
The proposed network of new local roads in the Hamlet are conceptual in nature and location, and are intended to serve as a general pattern for future development; not as an encumbrance on any specific area of land within the Hamlet area.



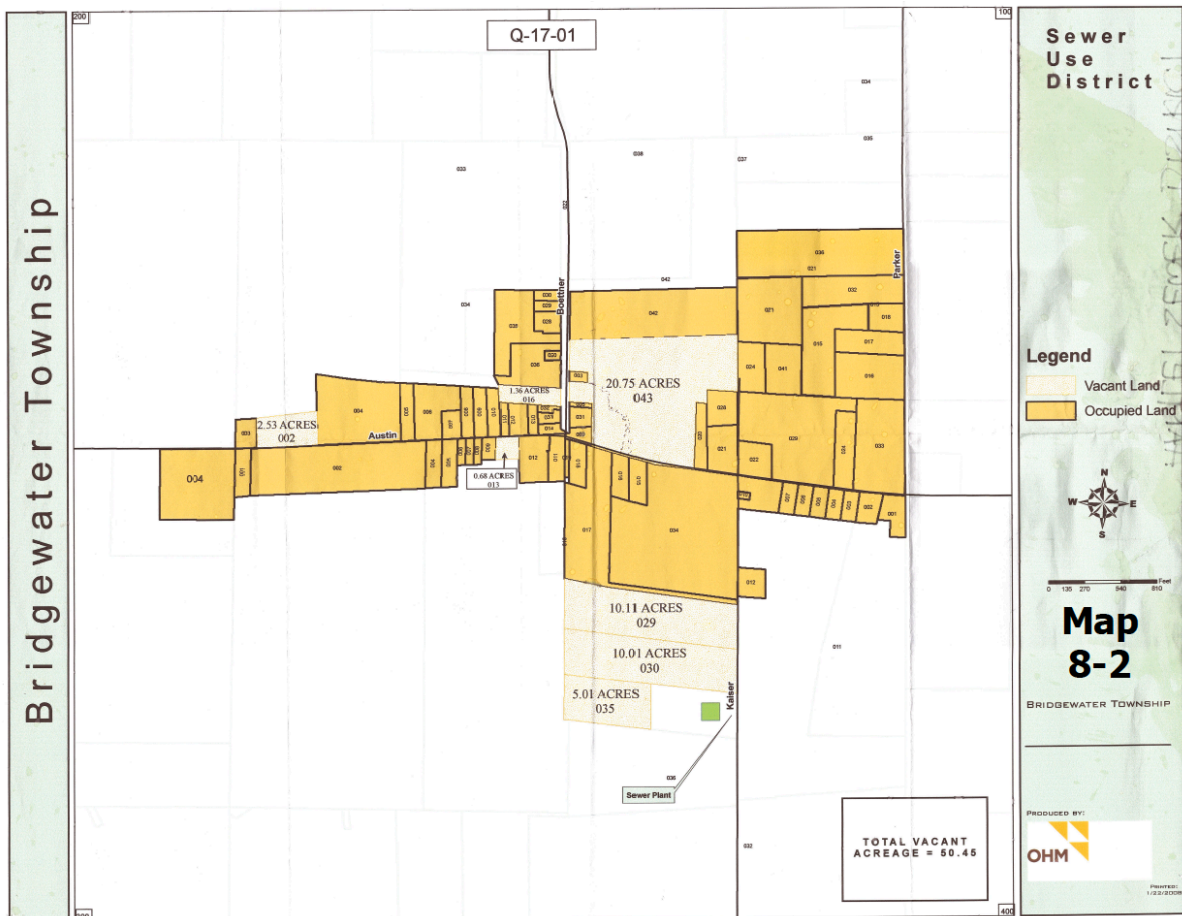
MAP LUP-4



HAMLET SEWAGE USE PLAN

The Township is responsible for providing sanitary sewerage services to portions of the Hamlet via a public sewage treatment plant located on Kaiser Road. As of 2013, the treatment plant continues to have limitations on its capacity that may affect potential development in the Hamlet for at least the next several years. The Township's Sewer Use District is depicted below on Map 8-2.

Until such capacity limitations have been successfully resolved, consideration of any rezoning petition or other land use or development application that would require additional capacity beyond that already allotted to the subject land should include a detailed review by the Township Engineer.



ADDITIONAL LAND USE RECOMMENDATIONS

The Hamlet's historic character and small hometown feel are valued by the community and should be maintained. The following are additional recommendations associated with the future use of land within the Hamlet:

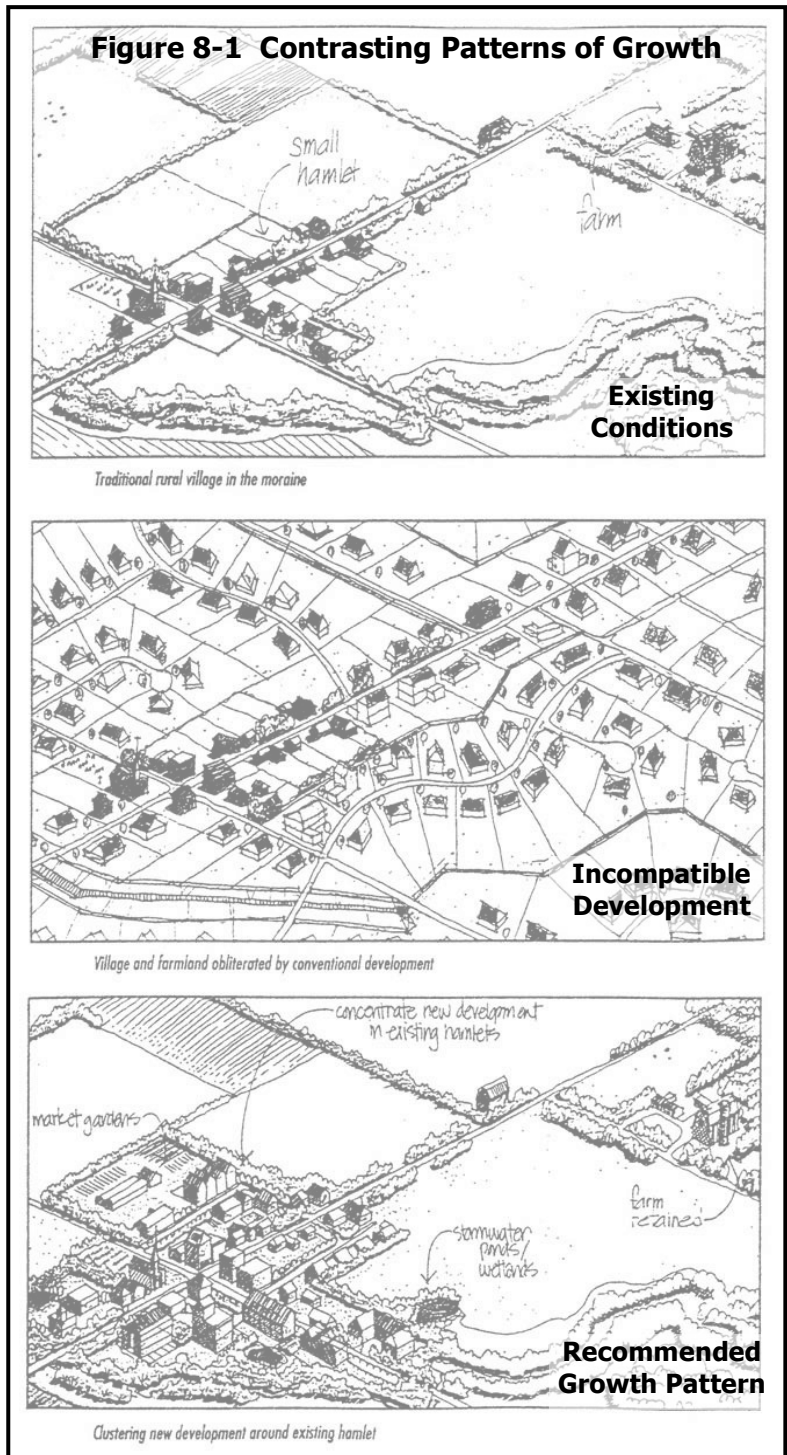
Residential Land Uses

The land use plan Map LUP 4 designates selected areas within the Bridgewater Hamlet and other areas served by the Township's public sanitary sewage treatment and disposal system (see Map 8-2) as Medium Density Village Residential, which includes small lot single-family homes as well as certain types of attached and multiple-family housing.

Residential development in the Hamlet should be compact, small in scale, and reflective of a traditional village-like character (see "Recommended Growth Pattern" in Figure 8-1 at right). The arrangement of residential uses should be coordinated to create linked neighborhoods, and should be arranged to create a smooth transition between the Hamlet and the surrounding countryside.

As illustrated by Figure 8-1 (Contrasting Patterns of Growth), unplanned or haphazard growth is incompatible with and will obscure the unique character of the Hamlet. The recommended growth pattern for the Medium Density Village Residential area will enable the unique setting of the Hamlet and its surroundings to be preserved.

Note that the density of the clustering in the Figure 8-1 example is more intense than what would be anticipated or planned for within the Hamlet.



Creative arrangement of residential developments and the use of existing historic and cultural features as focal points are encouraged to link the new with the old in an organic way. New developments should be arranged to create an integrated block pattern and an interconnected local street network within the Hamlet (see examples below).



Figure 8-2. New development that does not relate to the historic settlement pattern (above left) has an “unraveling” effect, as seen in the example in the middle. To avoid this, growth should be a natural extension of the existing pattern, as seen in the example on the right.

Source: Rural by Design: Maintaining Small Town Character, by Randall Arendt. APA Planners Press, 1994, page 188.

Commercial Land Uses and Mixed Use Live/Work Development

The land use plan maps designate the Bridgewater Hamlet as the primary location for future convenience shopping, food service, and office land uses intended to serve area residents and visitors. Such uses are not intended to compete with established commercial centers in the surrounding region.



Buildings and site layout should reflect a small-town, rural character, not strip or suburban-style commercial developments. Specifically, commercial buildings should be situated close to the road with the majority of parking located to the side and rear. In addition, building facades, signage and lighting should be appropriate for a rural area.



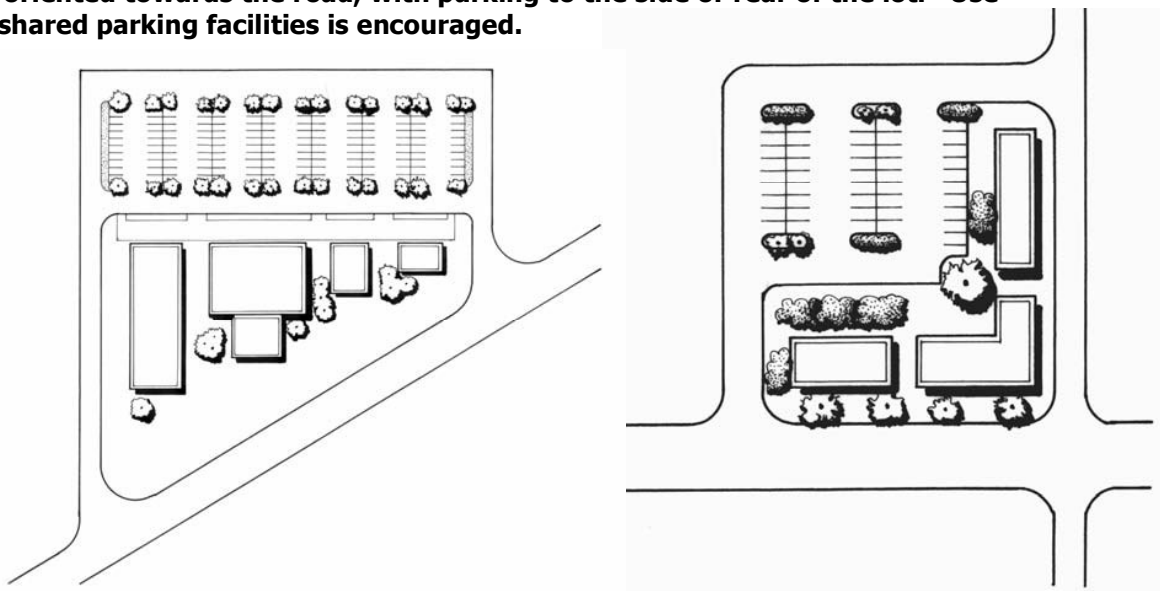
The area of the Hamlet designated for Mixed Commercial and Live/Work land uses is planned be gradually converted to a mixed-use area, while retaining a rural village-like scale and character. Non-residential uses permitted in this area of the Hamlet should be compatible with neighboring residences. Drive-through operations should not be permitted.

Existing residential structures should be retained, but may be converted to compatible non-residential use. New buildings should be compatible in scale, orientation, and architectural character with the desired character of the Hamlet, as expressed in this area plan. Metal or glass curtain walls and concrete blocks should not be used on exterior building walls of new buildings in the Hamlet.

New commercial development should include provisions for shared parking and cross-access for vehicles and pedestrians between adjoining land uses, where possible. Off-street parking should be placed to the side or rear of new non-residential buildings, and should not dominate the appearance and character of any site. Exterior lighting should conform to Zoning Ordinance requirements, and be compatible with neighboring residences.

As seen in the graphics below, rear parking and shared access drives allow commercial buildings to have a close relationship to each other and the road, unlike typical more suburban-style commercial developments.

Figure 8-3. New commercial and mixed-use development in the Hamlet should be oriented towards the road, with parking to the side or rear of the lot. Use of shared parking facilities is encouraged.



Community Parking Lot

Some of the existing businesses in the Hamlet have little or no off-street parking, requiring customers to park along the edge of the road margin and within the road right-of-way. In some cases, this arrangement requires motorists to back out directly into the traffic lanes. To ensure adequate access to parking and to improve traffic safety, it is the policy of the Township to encourage the Bridgewater Hamlet business community to develop one or more off-street community parking lots that could be shared by all of the participating businesses. Details regarding the location and size of such lots and any sidewalks needed to connect a lot to the businesses would be worked out by the participating businesses.

If a financing mechanism or related public improvements are needed to facilitate such improvements, the Township could consider the establishment of a special assessment district or tax increment financing authority (TIFA) to support the project.

Industrial Land Uses

This plan envisions the Hamlet as the primary location for future industrial land uses in the Township. Such uses are intended to be light industrial or research and development type establishments, such as warehousing with accessory office and research or testing facilities. All uses should be carried out within completely enclosed buildings or, when limited outdoor storage is provided, with appropriate screening of storage areas from all property lines.

The focus of the Township should be on retention and expansion of existing industrial and warehouse operations that are compatible with the desired character of the Hamlet and the capacity of the Hamlet's sewerage treatment plant. Approximately ten acres of vacant land is available within the area designated on Map LUP 4 for future industrial uses. Location of any new industrial operation is contingent upon available sanitary sewage treatment capacity to serve the proposed industrial operation.

HAMLET AREA TRANSPORTATION PLAN

The primary objectives of this transportation plan element are to improve the compatibility of the county public road system with the desired character of the Hamlet, and to minimize traffic-related impacts along Austin Road as motorists pass through the Hamlet. The integrity of the Hamlet as a comfortable and functional place to live and work can only be maintained by addressing the ongoing impacts of this pass-through traffic.

The key to achieving these objectives is to ensure that the design of any new local roads and any future improvements to Austin Road and Boettner Road will be compatible with this area plan and Master Plan. Accordingly, the following transportation-related policies are hereby established for the Hamlet:

Austin Road and Boettner Road

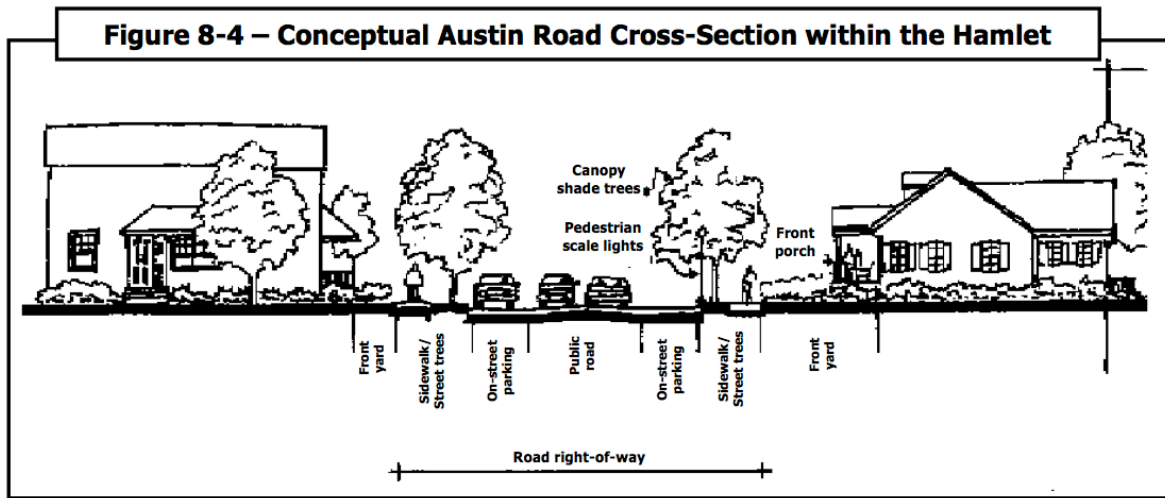
Currently, residences and other land uses along Austin Road in the Hamlet are impacted by high-speed traffic, and the associated noise and safety hazards. The visual prospective of both Austin Road and Boettner Road should be of a village scale and character consistent with the conceptual cross-section shown in Figure 8-4 (page 8-10).

Road design will be a key element in the successful reduction of speeds within the Hamlet. The conceptual cross-section includes the following traffic calming elements:

1. **Curb and gutter.** A two-lane road configuration, with the addition of concrete curb and gutter within the Hamlet area to provide some physical separation between the roadway and adjacent residences, and additional visual cues to motorists that they have entered a low-speed zone.

A reduced speed limit of 25 miles per hour is recommended for the paved portion of Boettner Road and along the segment of Austin Road between Kaiser Road and approximately one-half mile west of Boettner Road.

2. **On-street parking.** On-street parallel parking on one or both sides of the road, which would provide additional parking for area businesses while also serving as a traffic calming element to slow the speed of traffic on Austin Road in particular.



Pedestrian improvements within the road right-of-way are also shown in the conceptual design, and should be considered as part of private development projects in the future that may impact traffic levels on these county primary roads. Such improvements could include sidewalks, tree plantings along the road margins, and pedestrian-scale streetlighting. Additional easements may be required for some improvements.

Intersection Improvements

Through traffic on Austin Road does not currently stop at the intersection of Boettner Road. Safety at this intersection would be improved and traffic speeds along Austin Road reduced by adding stop signs for eastbound and westbound traffic. This may require an active effort on the part of the Township Board and area residents to persuade the Washtenaw County Road Commission to make this improvement, as existing traffic counts and accident rates may not yet warrant such an improvement, based only on county formulas.

Gateway Signage

Another key to traffic calming is improved gateway signage at the east and west Austin Road entrances into the Hamlet. Such signage would serve as a visual element for motorists that they are entering an area of reduced speed, and could be combined with landscaping and other architectural features characteristic of the Hamlet. Such signage could be incorporated into a larger set of wayfinding signage that would also serve to highlight and increase the visibility of Hamlet businesses.

The eastern gateway signage should be located near the intersection of Austin Road and Kaiser Road, with the western gateway located west of the Boettner Road intersection near where the road tops a low rise before entering the Hamlet area (see picture at right).

Additional easement area may be required for the installation of such signage.



Western gateway into the Hamlet

COMMUNICATION PLAN FOR THE HAMLET

The Hamlet area contains the highest density of dwelling units per acre in the Township, along with a cluster of business and industrial operations that would benefit from expanded options for broadband Internet access and cellular telephone service. Improvements in communications infrastructure in the Hamlet would improve the business climate and create new opportunities for home-based businesses that rely on the Internet. As such, it is the policy of the Township to:

1. Encourage Internet providers to extend high capacity cable and fiber optic lines and infrastructure to serve the Hamlet area with high capacity, broadband Internet access.
2. Encourage collocation of wireless Internet and upgraded cellular telephone antennae on existing towers serving the Hamlet and surrounding areas.
3. Permit the construction of a new wireless communications tower, if deemed necessary to provide complete coverage and a range of service providers to the Hamlet.
4. Encourage Internet providers (both wireless and cable/fiber optic) to make the Hamlet area their first priority for extension and upgrading of communication services.

BUSINESS GROUPS AND LOCAL IMPROVEMENT AUTHORITIES

The Township should encourage the business owners in the Hamlet to consider forming a business improvement association or an informal business group for the purpose of coordinated marketing efforts and hours of operation, and to consider options for cross-promotion of products and services.

IMPLEMENTATION

This area plan is a policy document intended to guide future Township decision-making with regards to land use and community development within the Bridgewater Hamlet. It is intended to provide a clear link between the Township's goals and objectives and

specific land use recommendations. While the area plan portrays the community's vision for the future of the Hamlet, implementation of this plan is the real key to achieving that vision. See Chapter 11 (Plan Implementation) for recommended implementation strategies.

HAMLET OPEN HOUSE RESULTS

On March 27, 2014, the Township Planning Commission held an open house event in the Hamlet at Heritage Hall, which is the former location of the historic Klager Hatchery. All property owners in section 1 of the Township received a postcard invitation to the event. Notice was also published in the newspaper, posted at area libraries, and at several locations in the Hamlet.

The purpose of this event was to seek public input on a number of questions raised during the preparation of this Master Plan. Eleven people signed the attendance list, including several business owners. A summary of the open house results follows:

Chapter 9 TRANSPORTATION PLAN

This chapter provides specific transportation-related recommendations based on the goals and objectives detailed in Chapter 6 (Goals, Objectives, and Policies). An examination of the local transportation network is an important part of a Master Plan, as land uses and the means of transporting goods and people are interdependent elements of a successful community. The implementation of a functional transportation network depends upon adherence to sound planning principles and an effective collaboration between Township, County and State officials and private landowners.

EXISTING ROAD CONDITIONS

The following is a summary of existing Township conditions related to transportation:

Traffic Volumes

Map TH1 (Existing Road Conditions) shows 24-hour traffic volumes on major roadways, based on data from 1999 obtained from the Washtenaw County Road Commission and Michigan Department of Transportation for the 2001 Master Plan. The highest volume roads in Bridgewater Township are US-12 (Michigan Ave.), Austin Road, and Clinton Road. As part of the 2013 Master Plan update, a general review of the data was conducted by Township consultants, and it was determined that conditions have not changed in a manner that would warrant collection of new traffic counts.

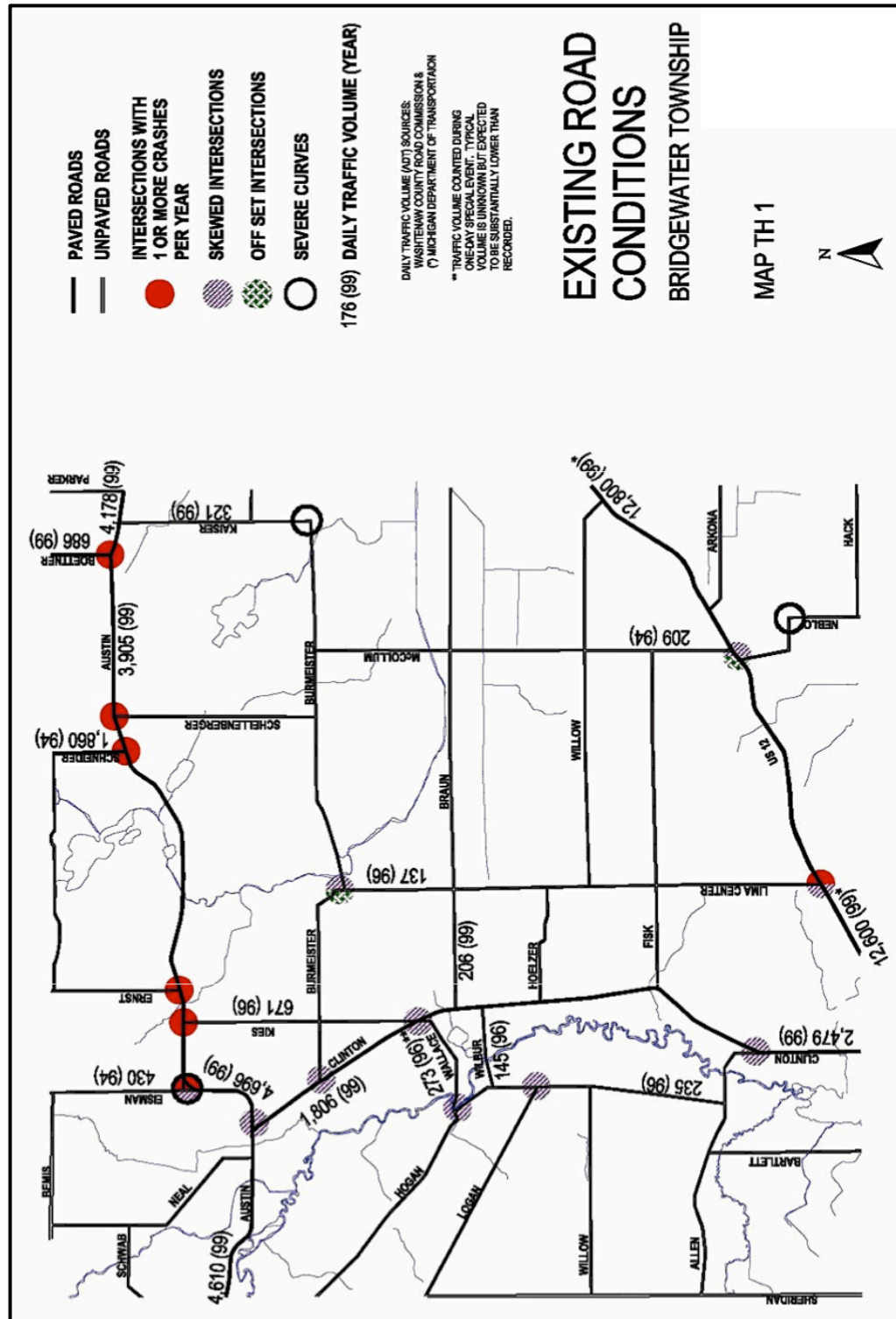
US-12 is a two-lane state highway crossing the southeastern corner of the Township. A 1999 count on US-12, near the Township's eastern boundary, found that it was carrying about 12,800 vehicles per day. The volume on US-12 decreases slightly, to about 12,600 vehicles per day, northeast of the Village of Clinton. Austin Road, which serves as the Township's main east-west travel route, carried between 3,905 and 4,696 vehicles per day in 1999. Clinton Road, running north-south, carried between 1,806 and 2,479 vehicles per day.

Existing Road Network

As indicated on **Map TH1** (Existing Road Conditions), the majority of Bridgewater Township's roads are unpaved. Most of these roads carry very low volumes, under 400 vehicles per day. The capacity of such roads depends on road width, alignment, and condition. **Map TH1** also identifies parts of the Township's road system that may be of concern. Such locations include:

- ☐ Severe curves
- ☐ Offset intersections
- ☐ Skewed intersections (angles less than ninety degrees or other unusual configurations)
- ☐ Intersections having more than one crash per year

Austin Road, one of the few paved roads within the Township, serves as a thoroughfare across the Township and between Manchester (M-52) and Saline (US-12). The relatively high intersection-related crash rates along this corridor, as noted on the map, are likely related to both the road's function and the many changes in horizontal alignment (curves in the road).



COMPLETE STREETS IN THE TOWNSHIP

Public Acts 134 and 135 of 2010 give new responsibilities to county and state transportation agencies across Michigan related to implementation of the new “Complete Streets” policy established by the package of laws.

The Washtenaw County Road Commission and Michigan Department of Transportation (MDOT) are required through amendments to the Act 51 program, which governs the funding and prioritization of road projects across the state, to consider all users of the road right-of-way as part of the planning of future road projects.

Why should the Township be concerned with “complete streets” laws when the county and state are responsible for the road network?

These public acts provide the Township with a more powerful mechanism to influence decision-making within county and state road authority bureaucracies, which is this transportation plan.

In the absence of written and adopted road policies, the default county or state standard would apply to any future road improvements, with little regard as to whether a particular road width or design is best for Township residents or the Hamlet’s business community.

For example, the intent of the road-related policies and recommendations contained in the Bridgewater Hamlet Area Plan (Chapter 8) are to encourage the county road commission to consider the unique character of the Hamlet, and to incorporate context-sensitive design elements into any future Austin Road improvements.

Complete Streets.

A comprehensive approach to transportation networks, which integrates all facilities in the road right-of-way (travel lanes, shoulders, sidewalks and non-motorized pathways, driveway access, etc.) to abutting buildings and land uses.

The intent of the “complete streets” approach to transportation planning is to ensure that all users (motorists, pedestrians, bicyclists, etc.) are safely accommodated as part of transportation improvements along a road corridor.

For the Township, these public acts also included amendments to the Michigan Planning Enabling Act (Public Act 33 of 2008, as amended) intended to ensure that county and state road agencies better coordinate road improvements with the Township, and will cooperate with the Township to implement transportation elements included in this Master Plan.

This transportation plan is intended to conform to the requirements of the Michigan Planning Enabling Act, and to establish Township priorities for improvements to the road network.

TRAFFIC AND CIRCULATION PLAN

One of the goals of this Master Plan is to “maintain a transportation network that facilitates efficient circulation while reinforcing the Township’s rural character.” However, this plan also recognizes that maintaining the network of unpaved roads helps to ensure the continuation of the Township’s rural character and appearance. This section is intended to identify opportunities for improvement to better facilitate traffic circulation and alleviate potential traffic hazards, while retaining unpaved roads where appropriate.

Description of the Road Network

Traffic is concentrated on certain roadways due to the road's physical condition, level of use, and direction of travel, as well as the overall land-use pattern. To set funding priorities for the roads that carry the highest volumes, transportation planners established a street classification system. Roadways are typically divided into those that primarily carry regional or "through" traffic and those that carry local traffic. To function successfully, the overall traffic circulation network must be carefully integrated. In the Township, the five (5) basic types of roads are defined below and on **Map TH 3** (Thoroughfare Plan):

Principal Arterials.

Principal arterials provide travel routes from one city to another, and can traverse one or more states. They are most often used for longer trips, as higher speeds are allowed. When a principal arterial passes through a more populated area, however, the highway functions more like an arterial. The number of intersections increases and speeds decrease. Principal arterials are planned for 150-foot rights-of-way. US-12 is the only principal arterial in the Township.

Arterials.

Arterial roads carry trips of shorter length than do principal arterials. They can provide routes for lengthy trips if a principal arterial or freeway is not available. Arterial roads have dual functions: (1) To provide routes for through traffic, and (2) to also provide access to abutting properties and minor intersecting streets. This can lead to congestion and traffic crashes because of turning vehicles conflicting with through traffic. Arterials are planned for 66-foot rights-of-way, except where limited use of acceleration, deceleration or left hand turn lanes are determined necessary by the county road commission. In order to retain the Hamlet's established character, Austin Road within the Bridgewater Hamlet has been designated as a village arterial that should not be widened for any reason beyond a 66-foot right-of-way. Schneider Road, Clinton Road, and Austin Road are designated as arterials in the Township.

Collectors.

The intent of a collector street is to collect vehicles from the local streets or rural areas and distribute them to either local destinations or to an arterial. The collector street system serves both land access and through traffic. Collector roads are planned for 66-foot rights-of-way. Lima Center Road, McCollum Road, Kaiser Road, Burmeister Road, Braun Road, Parker Road, Hogan Road, Ernst Road, and Logan Road are designated as collectors in the Township.

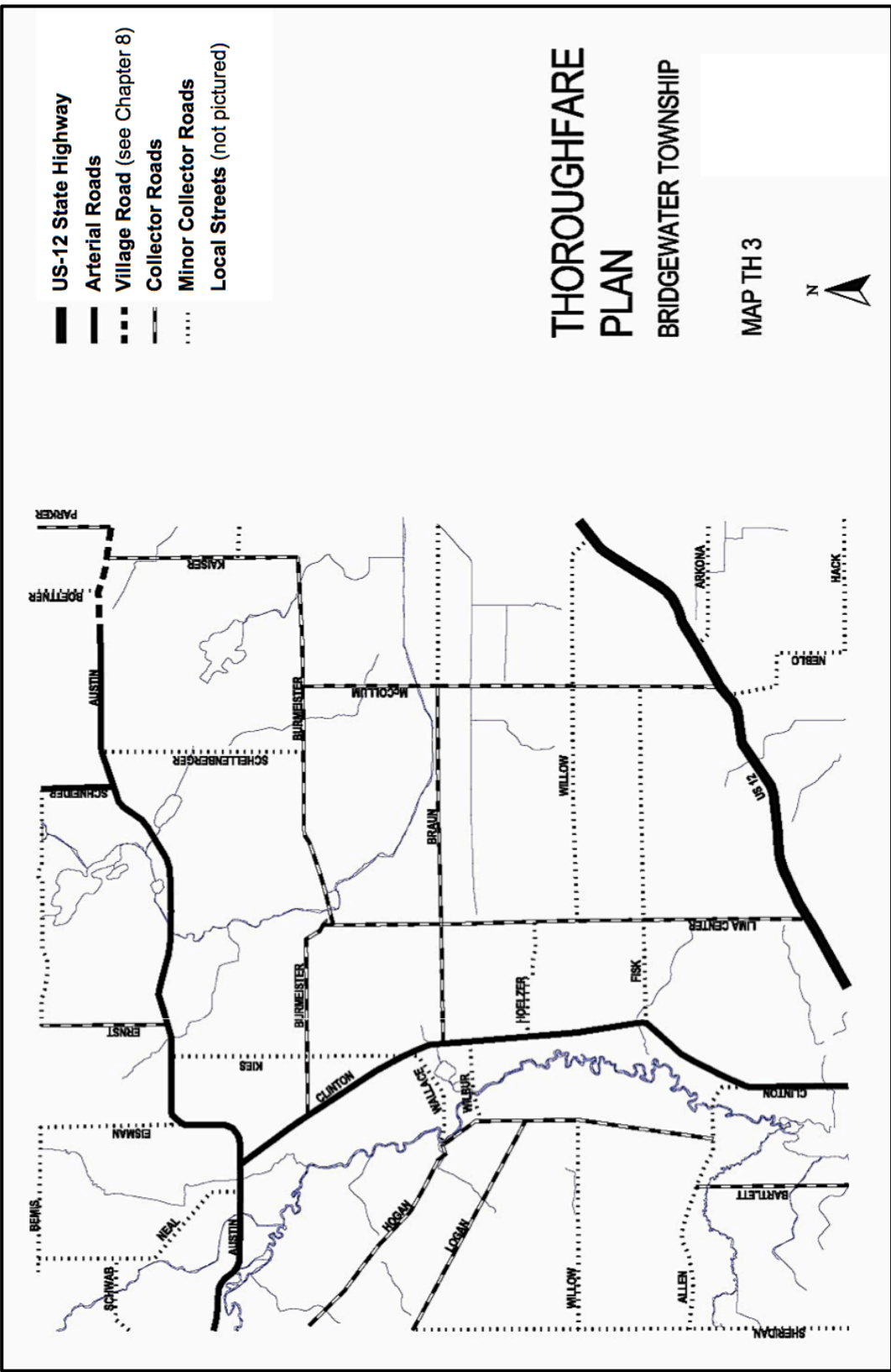
Minor Collector.

Minor collector streets also collect traffic from local streets, but they generally carry shorter trips and the routes are less traveled than collector streets. Minor collectors are also planned for 66-foot rights-of-way and include all of the remaining roads within the Township.

Local Streets.

Providing access to adjacent land is the sole function of local streets. These streets make up a large percentage of total street mileage in urban areas and a small percentage in rural areas, but they almost always carry a small portion of vehicle miles

traveled. The aim of local streets is to provide access to collector streets and through routes, but in such a manner that through traffic is not encouraged to use the local streets as a shortcut route. Local streets are planned for 66-foot rights-of-way.



Access Management Recommendations

A well-designed and maintained road network is needed to provide access to property, mobility for citizens, and conduits for local economic activity. However, the pattern of land uses and number and type of access points onto roads impact the function of the road system. The function of the road system and its ability to move traffic in an efficient and convenient manner has a significant impact on the viability of land uses and the overall quality of life in a community.

The access management techniques described below primarily apply to more intensive, non-residential land uses. However, the standards for shared access driveways are appropriate for individual residential home sites. Access management is usually implemented through the site plan review process, and these techniques are suggested as guidelines in that process. Each case will require an individual analysis to determine the appropriate action given the characteristics of the site and use.

Restricting the Number and Spacing of Access Points.

Limiting the number of driveways permitted for each land use can help preserve the traffic movement function of a roadway. Proposed and existing land uses should provide the minimum number of driveways needed to provide access to a development site.

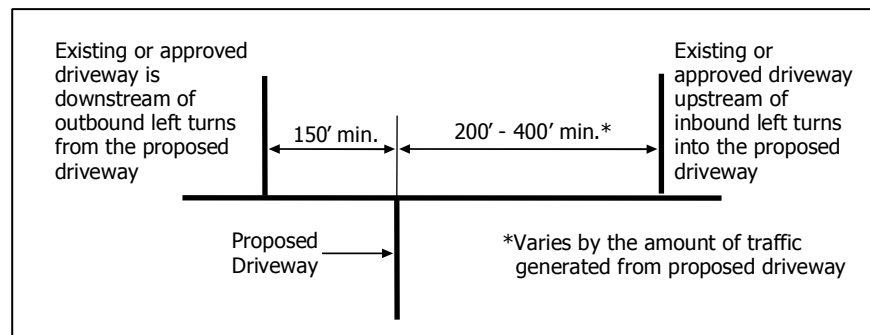
If additional driveways are proposed, additional street frontage for the subject site and appropriate spacing between existing driveways should be provided.

Even if only one access point is proposed, the most appropriate location should be selected to preserve the function of the roadway and maximize public safety. Driveways located too close together are safety hazards and they can negatively impact road capacity. Recommended spacing standards between non-residential driveways on the same and opposite sides of the roadway are provided below.

Table TH 1: Recommended Spacing Standards for Driveways on Same Side of Street

Road Speed (miles per hour)	Minimum Driveway Spacing (feet)
25	105
30	125
35	150
40	185
45	230
50	275
55	350
Spacing standards are based on established state and federal guidelines, which may be updated from time to time.	

Driveways on Opposite Side of Street

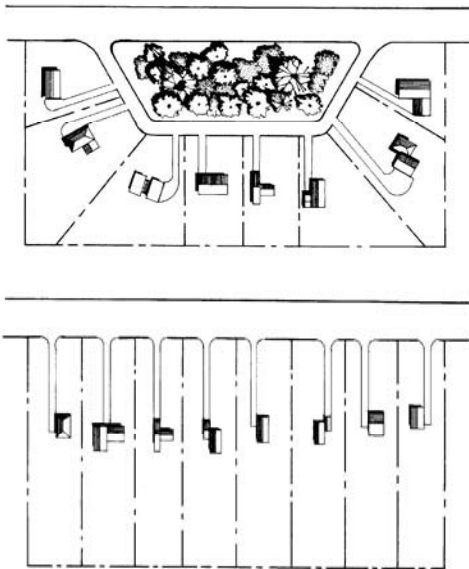


Encouraging Shared Access.

Providing shared access to a site reduces the number of access points, preserves the capacity of the road, and can even help to maintain the character of the community. Shared access can be achieved through a variety of techniques including frontage roads, service roads and internal connections between sites.

As illustrated in the graphics below, individual driveways serving residential acreage parcels can reduce the capacity of the roadway and the rural character of the community. For example, as new houses are developed on acreage parcels, shared access via a frontage road may be a desirable alternative.

Shared access example:



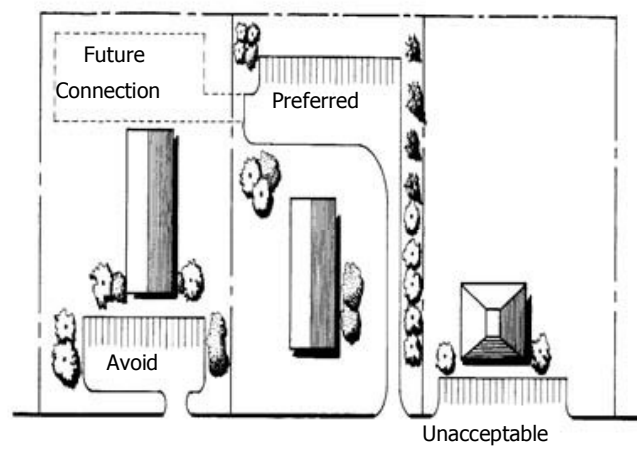
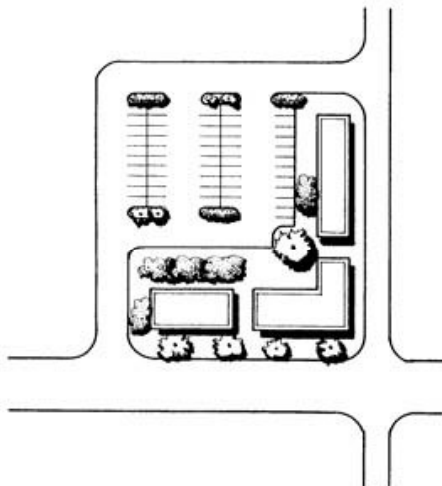
Multiple driveways impact road function.

aesthetic appearance and character of the community. If shared access drives are not feasible, internal service roads or internal parking lot connections between uses should be provided to preserve roadway capacity.

Such shared access alternatives to multiple individual driveways and “curb cuts” into the public road right-of-way can preserve roadway capacity and views from the road, and provide a buffer area for the houses.

Access management is also critical for non-residential land uses because of their intensive nature and tendency to demand a higher number of access points. The graphics illustrate ways in which nonresidential uses can utilize access management techniques related to off-street parking facilities.

Shared access for a number of non-residential uses preserves the road capacity, which is especially important near intersections. Shared parking at the rear of the buildings also helps preserve the

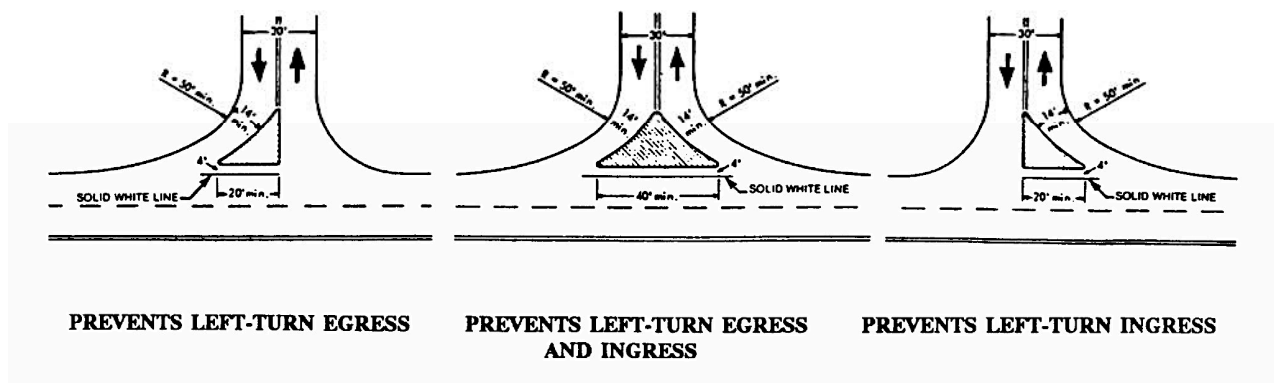


Access/Driveway Design.

Another access management technique involves proper driveway and intersection design. Driveways should be designed with adequate width, turning radius, and depth to allow automobiles and large trucks to enter and exit a site safely and efficiently. A clear vision area at the corners of all driveways and intersection is also needed for safe driver visibility. Uses that generate high volumes of traffic may warrant the construction of deceleration and acceleration lanes adjacent to driveways and intersections. Left turn passing lanes or center left turn lanes may also be necessary. Such improvements are often identified through the completion of a traffic impact study.

Restricted turning movement at a driveway or a channelized driveway access design may be warranted by high traffic volumes or poor spacing of proposed access points to existing driveways or adjacent intersections. For example, when an existing driveway is too close to an intersection, it is possible to improve access and safety by restricting turning movements to right turns in and out of a proposed or existing development site.

Examples of channelized or limited driveway access:



US-12 CORRIDOR PLAN

US-12 is a regional state highway, and a primary traffic route from metro Detroit and Ann Arbor into the Irish Hills and to the Michigan International Speedway (MIS). Over the past two decades, significant safety improvements have been completed by the Michigan Department of Transportation (MDOT), including paved shoulders, passing lanes, and improved signage.

The portion of the road corridor in Bridgewater Township is planned to remain rural and agricultural in character. The following are the policy preferences of the Township with regards to future road improvements along the US-12 corridor:

- ❑ To maintain the rural character, capacity improvements along US-12 should be limited to additional passing lanes where determined necessary by MDOT. Widening to a four or five lane configuration or a divided boulevard should be avoided.

- ❑ Access management techniques should be applied to new development along the US-12 corridor from the City of Saline to the Village of Clinton to preserve traffic capacity.
- ❑ Facilities for bicyclists should be maintained along US-12 within the road right-of-way.

AUSTIN ROAD – CLINTON ROAD – SCHNEIDER ROAD CORRIDOR PLAN

Austin Road and Clinton Road in Bridgewater Township are likely to increase in importance because of their roles in the area-wide road network, and Schneider Road is an important connector road to the north. Speeds and accident rates along Austin Road in particular are too high. Measures are needed to slow traffic and correct safety deficiencies along these paved roads. These road corridors are planned to remain primarily rural in character. The following are the policy preferences of the Township with regards to future road improvements along the these road corridors:

- ❑ To maintain the rural character, capacity improvements along these road corridors should be limited to acceleration/deceleration lanes and left hand turn lanes where determined necessary by the Washtenaw County Road Commission.
- ❑ Austin Road within the Bridgewater Hamlet area should be improved consistent with the recommendations of Chapter 8 (Bridgewater Hamlet Area Plan).
- ❑ Widening to a three, four or five lane configuration should be avoided.
- ❑ Intersections along these corridors with a non-standard (90-degree) configuration should be high priorities for traffic safety modifications by the Road Commission.
- ❑ Facilities for bicyclists, including paved shoulders or bicycle lanes at least four (4) feet in width, should be provided along these road corridors within the road right-of-way as part of future improvements.
- ❑ Improvement of the intersections of Austin Road with Clinton Road and Schneider Road to incorporate non-signalized intersection design elements that have been shown in other local or regional applications to improve traffic safety and reduce the frequency and severity of vehicle crashes. Such improvements should be consistent with the Township's rural character. The intent of such improvements would be to help reduce speeding along this corridor, and to better define these important intersections from a wayfinding perspective.

BRIDGEWATER HAMLET TRANSPORTATION PLAN

See Chapter 8 (Bridgewater Hamlet Area Plan) for transportation plan policies and recommendations associated with the Hamlet area.

BRIDGE MAINTENANCE RECOMMENDATIONS

Bridgewater Township, like many rural Michigan communities, is experiencing the effects of aging and outmoded road infrastructure. As of this 2013 plan update, one bridge on Bemis Road in Section 3 of the Township is under a strict weight restriction (maximum five tons) imposed by the Washtenaw County Road Commission. Other older bridges in the Township may be outmoded in width or design.

- ☐ It is recommended that the Road Commission maintain an inventory (location, age, condition) of all bridges in the Township with the assistance of the Township Board.
- ☐ The Road Commission should be encouraged to implement a more proactive program of maintenance and inspections to preserve the capacity of older bridges.
- ☐ The Road Commission should be encouraged to replace outmoded bridges with structures of sufficient width and capacity to support modern farm equipment.

NON-MOTORIZED TRANSPORTATION PLAN

An increasing number of bicyclists and others are using Township roads for non-motorized transportation. The needs of all potential users of the Township's transportation network should be adequately addressed as road improvement projects are planned and implemented. The following are the policy preferences of the Township with regards to the non-motorized transportation needs of the Township:

- ☐ The Township will work with the Washtenaw County Road Commission to seek road improvements that include striped on-street bicycle paths along Austin Road, Clinton Road, and Schneider Road.
- ☐ The long-term development of a safe system of multi-use pathways (pedestrian, bicycles, snowmobiles, etc.) within existing road rights-of-way to connect areas of the Township and adjoining communities should be investigated by the Township.
- ☐ No trails should be developed in the Township along river or stream corridors, in backcountry property behind or adjacent to rural residences, or in isolated sections not connected to an existing network.
- ☐ No trails should be developed in the Township without a comprehensive plan and financing mechanism acceptable to the Township Board to provide for regular public safety patrols and long-term maintenance and improvement.

PUBLIC TRANSPORTATION

The Township does not have the density of housing units to support a public transportation system, but senior citizens in the Township may access to a “Dial-A-Ride” service through the Manchester Area Senior Citizens Council, Inc. to be able to access medical services, shopping, and other necessary activities to support independent living. Opportunities to collaborate with the City of Saline and/or Villages of Clinton and Manchester to expand such services to other Township residents who no longer can drive themselves or have limited access to private transportation should be investigated.

NATURAL BEAUTY ROAD PLAN

Under the state Natural Beauty Road Act (Public Act 451 of 1994), the Washtenaw County Road Commission (WCRC) can, upon request by Township residents and a public hearing, designate a county public road having “unusual or outstanding natural beauty” as a “natural beauty road.” All residents along the road must be notified of the hearing, and property owners representing more than fifty-one percent (51%) of the road frontage can prevent the road from being designated this way.

As of 2013, there are nine natural beauty roads designated in the county.

Natural Beauty Road Recommendations

Many of the Township’s roadways offer beautiful views of natural features and vegetation. Natural vegetation along these roads should be maintained, provided safety concerns are addressed.

- ☐ Natural beauty road status for Bemis Road, Schwab Road, and Sheridan Road should be explored through the Washtenaw County Road Commission.
- ☐ The Township should continue to evaluate other roads within the Township in order to identify others that may be appropriate for this designation.

Natural Beauty Road Criteria

The WCRC has established minimum criteria for such designations, which are summarized below from the WCRC website (2014):

1. **Character of the road.** To qualify as a natural beauty road, a road must have outstanding natural features along its borders, including native trees and other native vegetation such as shrubs, wildflowers, grasses, and ferns, and open areas with scenic or natural vistas, which, singly or in combination, set this road apart from other roads as being something unique and distinct.
2. **Length.** A minimum of one-half mile will be considered for designation as a natural beauty road, with some exceptions. Stretches will be continuous except where broken by a non-qualifying portion, which should normally not exceed one-half mile in length.

3. **Roadside Development.** Qualifying roads should preferably have no development along them, but such development as exists at the time the road is designated should be compatible with the surroundings, and should not detract from the natural unspoiled character and visual impact of the road area.
4. **Roadbed.** Natural beauty roads may be dirt, gravel, or hard surface.
5. **Function of the road.** The road should function as a local street or minor collector road. Collector and arterial roads are typically not considered for this designation.
6. **Roadway condition.** Condition of roadway should be reviewed and found to be adequate in terms of drainage, design and safety.
7. **Volume.** The current average daily traffic on an unpaved roadway should not exceed 500 vehicles for consideration as a natural beauty road.
8. **Vegetation.** A minimum of 90% of the lineal footage of the road right-of-way should include native vegetation.

Benefits of a Natural Beauty Road Designations

Once designated, normal maintenance activities are carried out with more sensitivity to the special character of the road, as summarized below from the WCRC website (2014):

- **Mowing.** Mowing should be limited to one swath (maximum of five feet) on either side except at public road intersections.
- **Grading.** Grading should continue as normally provided and be kept to a minimum to avoid disturbance of vegetation. Grading should be pulled back to avoid trees or unusual sites which have been designated.
- **Herbicides.** Under no circumstances will herbicides be used to control or eliminate roadside vegetation.
- **Signage.** Natural beauty roads will be identified with signage at key entrances.
- **Trees and shrubs.** Tree and shrub trimming and removal, where necessary for safety or visibility reasons, should be done judiciously and with proper tools so as not to leave unsightly scars.

Designation as a natural beauty road does not preclude the WCRC from implementing necessary safety improvements, including those affecting horizontal and vertical alignment. If changes are required in road surface to improve safety, drainage, etc., consideration may be given to rescinding the natural beauty road designation where such changes would disturb or destroy the characteristics for which the road was originally designated.

COLLABORATION FOR ROAD IMPROVEMENTS

Because Bridgewater Township does not have direct control over the roads in the Township, it is important that the Washtenaw County Road Commission (WCRC) and the Michigan Department of Transportation be kept aware of the plans of the Township. Because land use and thoroughfare elements are closely interrelated, and any change in one may have a marked effect upon the other. The following are the policy preferences of the Township with regards to collaboration with outside agencies and developers with regards to road improvements and construction of new roads in the Township:

- ☐ Information regarding the transportation plans of the State, County and Township should be exchanged on a regular basis.
- ☐ As new development and redevelopment is proposed, it should be examined with regard to impact on the road system.
- ☐ When a site plan for any type of use is submitted, access management techniques should be utilized, where appropriate.
- ☐ Where topography, vegetation, curvature of the road or other factors restrict road access or would potentially reduce the level of safety for motorists if new driveways and access points were to be constructed, new development in such areas should be encouraged to provide access via a local street, shared access drive or frontage road.
- ☐ Roadways in new developments shall meet appropriate WCRC standards and specifications, as well as those in the Zoning Ordinance.
- ☐ Plans for new development should provide for extension of roadways into new development areas where such extension is determined by the Township to be necessary for the continuity of the local road system.
- ☐ Residential developments intended to be isolated from the rest of the community by a system of private streets and absence of street connections with adjacent parcels should be discouraged.
- ☐ New residential developments shall be served by at least two means of regular public ingress and egress, except where natural conditions prevent such access.
- ☐ Plans for new residential development should provide for new collector roads or extension of existing collector roads through the development and connecting into the Township's public road network.
- ☐ Private roads should be limited to Planned Unit Development (PUD) projects.
- ☐ Private roads should not be approved unless a maintenance agreement conforming to Township ordinances has been approved, and a financing mechanism acceptable to the Township has been provided for long-term maintenance and improvement.

Chapter 10 ZONING PLAN

The Township Zoning Ordinance is one of the most important tools available to implement the policies of this Master Plan related to the use and development of land. The purpose of zoning is to assist in orderly development and growth. It is also used to protect property values and investments. Because of the impact it can have on the use of land and related services, local zoning regulations must be built upon the foundation of a Master Plan and “zoning plan.”

Zoning. Zoning is the division of a community into districts by ordinance for the purpose of regulating the use of land and buildings, their height and bulk, the proportion of the lot that may be covered by them, and the density of development.

Zoning is enacted under the police power of the State for the purpose of promoting health, safety and general welfare and has long been supported constitutionally by the U.S. Supreme Court and the Michigan courts.

The Michigan Zoning Enabling Act requires that a zoning plan be prepared as the basis for the Zoning Ordinance. This chapter is intended, along with the rest of the relevant parts of this Master Plan, to serve as the plan required by the Act. It functions as a link between the Master Plan and the Zoning Ordinance, and as a guide to the implementation of future ordinance changes.

ZONING DISTRICTS

The following are descriptions and general purposes of the categories within which the proposed zoning districts in the Township Zoning Ordinance are organized. The proposed zoning districts are summarized in the table below. The specific purposes of each district are described in Article 4.0 (Zoning Districts) of the Zoning Ordinance:

Type of District	Zoning District Name	Symbol
Rural	Conservation Preservation District	CP
	General Agriculture District	AG
Residential	Manufactured Housing Park District	R-2
	Hamlet Residential District	R-3
Business	Bridgewater Center District	BCD
	Local Commercial District	C
	Light Industrial District	LI
Other	Public/Semi-Public Services District	PSP

Rural Districts

The principal purpose of the Rural Districts designation is to focus on conservation of lands with sensitive environmental characteristics like woodland, wetland, wildlife habitat, and farmland. A range of agricultural uses and agricultural support services are permitted, along with a limited range of very low-density single-family residential uses. The land zoned within these districts should conform to the area designated as “agricultural” and “agricultural/rural residential” on the future land use Maps LUP 1 through LUP 4.

Residential Districts

The principal purpose of the Residential Districts designation is to accommodate a variety of single-family, two-family, and multiple-family residential land uses. Two separate residential districts are provided for in the Zoning Ordinance. The land zoned

within the R-3 district should conform to the areas designated as “medium-density village density residential” on the future land use Maps LUP 1 through LUP 4. See chapter 7 (Land Use Plan) for the specific future land use policies associated with “Manufactured Housing Park Residential Development.”

Business Districts

The principal purpose of the Business Districts designation is to provide locations for compatible commercial, office or light industrial operations and activities in the Township. The land zoned within the BCD district should conform to the areas designated as “mixed commercial and live/work” on the future land use Map LUP 4. The land zoned within the C-1 district should conform to the areas designated as “commercial” and “mixed commercial and live/work” on the future land use Maps LUP 1 through LUP 4. The land zoned within the LI district should conform to the area designated as “industrial” on the future land use Map LUP 4.

Other Districts

See “Additional Phasing Recommendations for Public/Quasi-Public Land Uses” below.

BRIDGEWATER CENTER DISTRICT

The Bridgewater Center District (BCD) is intended specifically to implement the policy recommendations of Chapter 8 (Bridgewater Hamlet Area Plan) of this Master Plan. The district is designed to permit a mix of small-scale commercial, office, residential, and public/quasi-public land uses compatible with the Hamlet’s scale and character.

DIMENSIONAL STANDARDS

The following table lists the dimensional standards table for each district of the Zoning Ordinance. The supplemental regulations and standards are listed in Article 3.0 (Dimensional Standards) of the Zoning Ordinance:

Standards		Districts								Additional Provisions
		CP	AG	R-2	R-3	BCD	C	LI	PSP	
Maximum Building Height (feet)	Feet	35	35	See Section 5.205 (Manufactured Housing Parks)	35	35	35	35	35	Section 3.201
	Stories	2.5	2.5		2.5	2.5	2.0	2.0	2.0	
Lot Standards (per unit)	Minimum Width (feet)	250	250		75	75	200	250	100	Section 3.202
	Minimum Area (acres or square-feet)	2.0 acres	2.0 acres		10,000 sq.ft.	10,000 sq.ft.	1.0 acre	2.0 acres	10,000 sq.ft.	
Yard / Setback Standards (feet)	Minimum Front Yard	75	75		25	20	35	75	35	Section 3.203 Section 3.204
	Minimum Side Yard	50	30		10	10	15	50	10	
	Minimum Rear Yard	50	50		35	35	35	100	35	
Minimum Separation Between Principal Buildings (feet)					20		25	65		
Maximum Floor Area Ratio (FAR)			0.05		0.35	0.60	0.60	0.30	0.60	
Maximum Ground Floor Coverage (GFC)			5%		35%	40%	30%	30%	30%	
Minimum Gross Floor Area of a Principal Detached Dwelling (square-feet)			1,000	1,000	1,000					
Maximum Net Dwelling Unit Density (units per acre)			1.0	4.0	4.0				Section 3.202	

RECENT ZONING ORDINANCE CHANGES (2013)

As a principal tool for implementing this Master Plan, the requirements and standards of the Township Zoning Ordinance should reflect the applicable policies of this Plan. The Township Planning Commission initiated a process to update the Zoning Ordinance in late 2010, which culminated in adoption of a comprehensive new Zoning Ordinance that became effective on May 20, 2013. The following is a summary of the general updates and changes that have been incorporated into the new Zoning Ordinance:

1. **Organization.** The organization of the Zoning Ordinance has been comprehensively updated to improve readability and make it easier to find information quickly. Wherever possible, regulations have been grouped into tables. The heart of the new ordinance is Article 4.0 (Land Use Table), where all of the zoning districts and permitted uses can be found in one table. The goal of the land use table format is to quickly answer the most common zoning-related questions: Where is a particular land use permitted, and what can I do with my property?
2. **Illustrations and flowcharts.** More than three dozen new illustrations and flowcharts are included throughout the updated Zoning Ordinance to clarify and illustrate certain development review procedures, regulations, defined terms, and other zoning concepts.
3. **State Zoning Act requirements.** The new ordinance is up-to-date with all of the requirements of the Michigan Zoning Enabling Act, including several recent amendments adopted into law in 2012. The updated ordinance also conforms to other applicable state and federal statutes, including the state Condominium Act and Right to Farm Act, and federal Religious Land Uses and Institutionalized Persons Act (RLUIPA).
4. **New in this ordinance.** The following is a summary of other key changes from the previous Zoning Ordinance:
 - The Township's site plan review requirements and review processes have been comprehensively updated consistent with current zoning practices.
 - New landscaping and screening standards for projects subject to site plan approval are included (see Section 11.10).
 - Updated natural resources protection standards for property subject to site plan approval have also been added (see Section 11.05).
 - Standards have been added to the Dimensional Standards table to establish a maximum permitted number of dwelling units per acre of land for each of the residential zoning districts (see page 3-1).
 - Permitted land uses in the AG (General Agricultural) District have been updated to expand opportunities for "entrepreneurial" or "value-added" agricultural activities that allow farmers to diversify their income sources.

- Design and development requirements for private roads in the Township have been updated, along with new provisions to improve coordination with the site plan review process (see Section 11.37).
- The Planned Unit Development (PUD) option has been comprehensively updated to make this development option easier for the Township and the developer to work with, while ensuring that the Township's interests are protected (see Article 10)
- Lot and road frontage requirements have been updated to prohibit "flag lots" with minimal or no direct frontage on a public road or approved private road.
- "Wind energy conversion system" regulations have been added to the Zoning Ordinance to allow for limited use of agricultural or private wind turbines.

RECOMMENDED ZONING ORDINANCE CHANGES TO CONSIDER

Following is a list of additional recommended changes to the regulations and standards of the Zoning Ordinance consistent with the policies of this Master Plan. These changes should be considered with deliberation by the Planning Commission and Township Board as the need arises, or in conjunction with other planned Ordinance amendments:

1. Consider relaxing the maximum 0.05 floor area ratio (FAR) and five percent (5%) ground floor coverage (GFC) restrictions for the AG (General Agriculture) District to allow for some additional floor area for agricultural buildings and rural accessory structures.
2. To reduce the potential overcrowding of land and impact of uncontrolled division of land into rural residential lots, consider the following amendments to the dimensional standards for the AG (General Agriculture) District:
 - (a) Adoption of "sliding-scale" land division standards to limit the number of times that a parent parcel (a parcel existing on the date of ordinance adoption) can be divided based on its size.

For local examples of sliding-scale zoning, review Section 3.202A of the Freedom Township Zoning and Saline Township zoning ordinances.
 - (b) Consider establishment of a larger minimum parcel size for the zoning district; or establishment of a range of minimum lot sizes based on specific conditions designed to encourage the location of non-farm dwellings on less productive farmland or in areas where the land has already been fragmented into a predominant pattern of non-farm parcels.
3. Consider adoption of specific land use regulations for medical marijuana caregivers and a prohibition against medical marijuana dispensaries or provisioning centers in the Township, consistent with the Michigan Medical Marihuana Act and Michigan Supreme Court decisions.

REZONING TO IMPLEMENT THE MASTER PLAN

The future land use maps (Maps LUP 1 through LUP 4) and associated elements of this Master Plan are intended to guide future changes to the Township's Official Zoning Map. The Master Plan should be a principal source of information in the investigation of all rezoning requests. The Planning Commission should conduct a periodic appraisal of the Zoning Ordinance and Official Zoning Map to ensure that all elements of this Plan are adequately reflected in the ordinance text and map, and that no changes to the Plan or ordinance are necessary.

Phasing of Zoning Map Changes

A key to successful Master Plan implementation is the timing of future changes to the Township's Official Zoning Map, whether initiated by the Township or by petitioners. When considering whether a rezoning request is consistent with this Plan, the Planning Commission and Township Board should keep in mind that the Master Plan's policy recommendations are based upon a ten to twenty year planning period.

While the Plan may identify certain Township lands for more intensive development, the time for such development may not yet have arrived. More intensive land uses and development should be phased-in over a period of time, consistent with the policies of this Plan and the infrastructure and land capacity available to support the development.

Specific criteria have been incorporated into the Township Zoning Ordinance to help the Planning Commission and Township Board evaluate future rezoning applications [see Section 18.04 (Findings of Fact Required)]. These criteria should be carefully considered before making recommendations and decisions on proposed amendments to the Official Zoning Map.

Additional Phasing Recommendations for the Hamlet Area

As noted in Chapter 8 (Bridgewater Hamlet Area Plan), the Township is responsible for providing sanitary sewerage services to portions of the Hamlet via a public sewage treatment plant located on Kaiser Road. New development activity in the Hamlet area should be consistent with this Master Plan and the limitations of the Township's Sewer Use District.

Consideration of rezoning petitions in the Hamlet with the potential to require additional capacity beyond that already allotted to the subject land should include evaluation by the Township Engineer of capacity limitations in the system, and analysis of any potential impacts on the system from the rezoning and permitted development in the proposed zoning district.

Additional Phasing Recommendations for Public/Quasi-Public Land Uses

In addition to the areas designated for "public/quasi-public" land uses on the future land use maps, there are certain other land uses of a similar character that may not be otherwise addressed on the maps. These land uses include churches and other religious institutions, government buildings, schools, and similar public facilities; as well as

publicly owned and maintained nature preserves or other public lands permanently set aside for open space or wildlife habitat.

Land may be rezoned for uses of a public or quasi-public character in areas of the Township designated for other land uses on the future land use maps, consistent with the following:

1. The location should be served by existing utility infrastructure and/or soils with adequate capacity for the intended occupancy of the facility.
2. The location should have direct frontage on and access to public roads that can safely and efficiently accommodate the expected traffic generated by the facility. Locating public or quasi-public facilities on local roads or unpaved roads should be discouraged.
3. Public or quasi-public facilities should not be located on land designated as part of the "Agricultural Preservation Area," unless the soil conditions or other characteristics of a specific site make it unsuitable for long-term agricultural operations.
4. The location would be compatible with the surrounding area and adjacent land uses in terms of traffic, noise, scale, and intensity of planned activities on the site.

Quasi-Public. As used in this Master Plan, the term "quasi-public" refers to land uses that are not government-owned but provide a substantial and enduring public service, are institutional in character, or include public assembly or similar gathering space as part of their operation. Examples include schools, churches and other religious institutions, private clubs and meeting halls, private recreation facilities, and similar land uses.

The CP (Conservation-Preservation) district is intended to be the appropriate zoning classification for land intended to be occupied by a nature preserve or other public lands permanently set aside for open space or wildlife habitat. The PSP (Public/Semi-Public Services) District is intended to serve as the appropriate zoning classification for other public/quasi-public land uses.

Consideration of rezoning petitions for these zoning districts should also include evaluation by the Township Planner of any potential issues of compliance with applicable Zoning Ordinance requirements associated with permitted land uses and development in the proposed zoning district, based on the size, location, configuration, and other characteristics of the subject land.

MORE ZONING TOOLS FOR PLAN IMPLEMENTATION

Following is a list of several additional zoning-related tools and techniques that can be used by the Township to implement the policies of this Master Plan:

Site Plan Review

Each time the Planning Commission reviews a site plan for compliance with the Township Zoning Ordinance, another step is taken in the process of implementing the

policies of this Master Plan. Development review and approval is an important implementation tool to ensure that new construction is consistent with the goals and objectives of this Plan.

Planned Unit Development (PUD) Option.

The PUD zoning district is established under the special district authority authorized by Section 503 of the Michigan Zoning Enabling Act. The PUD option offers considerable flexibility to the land developer to provide opportunities for site designs that respect the natural environment, result in efficient layout of infrastructure and public facilities, and ensure mitigation of negative impacts on adjoining land uses and the Township as a whole.

Development Agreement

Although there is no explicit legislative authority for such agreements, many Michigan communities have used development agreements to achieve a mutual understanding between the developer and Township concerning the conditions under which development can occur. Development agreements are often negotiated as part of a planned development approval, allowing the community and developer to address complex issues that cannot be adequately addressed on a typical site plan. Development agreements might prove useful to achieve desired developments in the Township, especially if or when a mixed-use development is proposed.

Form-Based Zoning and Building Composition Standards

Although there is no explicit legislative authority for form-based zoning, some Michigan communities are adding building design and appearance standards to local zoning ordinances. The intent of form-based zoning and building composition standards is not to mandate certain architectural styles or materials, but rather to achieve a more uniform streetscape where adjacent buildings share common design elements, height, number of stories, and other characteristics.

Chapter 11 PLAN IMPLEMENTATION

To be effective, this Plan must be used as part of daily decision-making in the Township. Policies in the Master Plan are implemented, for the most part, by day-to-day administrative actions of the Township officials and staff, decisions made by the Planning Commission, and the actions of the Board of Trustees. Although the Township may have responsibility to prepare and maintain this Plan, implementation also necessitates coordination with the outside agencies that have some jurisdiction in the Township. For this reason, this Master Plan should be viewed both as a communication tool and as a reference document for policy implementation.

The following is a summary of some of the plan implementation tools available to the Township:

ZONING ORDINANCE

See Chapter 10 (Zoning Plan).

SUBDIVISION REGULATIONS

The policies of this Master Plan can be implemented in part through careful review of proposed subdivision plat and site condominium development projects. The Michigan Planning Enabling Act includes specific provisions associated with subdivision plat review that apply most effectively to townships that maintain a local subdivision ordinance.

Subdividing, or platting, is a more complex method of land division and is regulated by the Land Division Act and any Township subdivision regulations. This method of subdividing involves technical review by the Township Planner, Planning Commission recommendation, and Township Board action on the various stages of the plat. This process is aimed primarily at zoning compliance, compliance with the Master Plan, proper vehicular and pedestrian circulation, future street extensions, buildable lots, proper relationship with neighboring properties, and provision of all public facilities and utilities.

The site condominium process is an alternative to the subdivision plat, but the end result is intended to be equivalent to a platted development. Since the issues and interests are the same from the Township's point of view in either approach to land division, the Township's review process for site condominiums should be as similar as possible to that exercised in subdivision review.

CAPITAL IMPROVEMENTS PROGRAM (CIP)

One of the most important non-regulatory tools the Township has available to implement this Plan is a "Capital Improvements Program" (CIP). The Township can use a CIP to implement Master Plan recommendations for new or expanded public facilities, plan for major expenditures, ensure that public funds are used wisely and efficiently, and to be prepared with "shovel-ready" projects when unexpected sources of funding appear.

What are Capital Improvements?

Capital improvements are physical facilities that require substantial investments to construct/develop, and are intended to last/be used for a long period of time. Typical project examples include:

- fire engines, bulldozers, and similar large equipment purchases;
- treatment plants, water and sewer lines, landfills, street construction or reconstruction, and similar infrastructure improvements;
- libraries, schools, government buildings, and similar building projects; and
- replacement, expansion, or major repair of existing facilities and equipment.

“Gray area” projects that could also be considered “operating” expenses outside the scope of a CIP include vehicle and small equipment purchases, repairs, and remodeling projects.

What is a Capital Improvements Program?

A CIP identifies the community's capital needs; ranks them by priority; coordinates their scheduling over a specific number of years; and determines the best funding method(s) to pay for them. The first year of the CIP is the capital budget, and as each year is completed a new year is added at the end. Many CIPs are organized into three (3) sections:

1. Overview of the CIP process, along with a list of the benefits the community will derive from the capital improvements;
2. Financial data, including charts outlining historical revenue and expenditure data, projected revenue, expenditure, and debt service; and a
3. Description of projects recommended for funding in the CIP period, including a justification for a project's inclusion in the CIP, the project's relationship to the community's master plan and other long-range plans, and how the project will be financed within the community's fiscal capacity.

The CIP should cover a six (6) year period, updated annually, with the first year representing the community's capital budget. The document lists the proposed capital improvement projects and expenditures by:

- Location, date of construction, and relationship to other existing and proposed facilities;
- Cost, means of financing, and sponsor; and
- Priorities over the CIP time period and geography of the Township.

Per the Michigan Planning Enabling Act, any municipality with jurisdiction may prepare and adopt a CIP, but it is typically mandatory for most cities and villages and for those Michigan townships that “alone or jointly with one or more other local units of government owns or operates a water supply or sewage disposal system.” For this reason, Bridgewater Township is required to prepare a Capital Improvements Program.

What are the Benefits of Using a CIP?

The CIP is a tool to enable and improve the local government's ability to balance its capital needs and available financing over a multi-year period. The following are some of the additional benefits of adopting and maintaining an up-to-date capital improvements program:

- ✓ A CIP helps to ensure that new public facilities and infrastructure improvements meet Master Plan objectives, spreads large capital expenses over time, and breaks large projects into phases.
- ✓ An up-to-date CIP will alert residents and developers of the Township’s intention to make certain improvements in particular places at particular times. This helps coordinate private investment, minimize inappropriate development proposals, and restricts development from occurring at a too rapid rate.
- ✓ The process of adopting and updating a CIP increases opportunities for public input on and public support for proposed capital improvements.
- ✓ The CIP process helps to separate the good from the “it seemed like a good idea at the time.” Some “good ideas” cost more than their benefits. A public facility may turn out to be unnecessary, over-designed, or may not meet the community’s actual needs.
- ✓ Use of the CIP “tools” by the municipality enables private businesses and citizens to have some assurance as to when public improvements will be undertaken.

FINANCING

Successful implementation of these projects will depend on the ability of the Township to secure the necessary funding for community planning and project implementation. Besides the Township’s General Fund, there are an ever-changing range of potential federal and state government sources, community foundations, and other sources for grant funding and loans which the Township may be eligible for to complete a particular project.

The first step is to develop a capital improvements program (see above) to identify potential projects, anticipated costs, and potential sources of funding. Once a specific project has been identified, the most appropriate sources of grants and other revenues to supplement local funds can be considered. The following are examples of potential financing tools:

- ❑ **Millage.** A special millage can be used to generate revenues for a specific purpose.
- ❑ **Special Assessments.** Special assessments are compulsory contributions collected from the owners of property benefited by specific public improvements to defray the costs of such improvements, apportioned according to the assumed benefits to the property affected.
- ❑ **Bond Programs.** Bonds are one of the principal sources of financing used by communities to pay for capital improvements. General obligation bonds are issued for a specific community project and are paid off by the general public with property tax revenues. Revenue bonds are issued for construction of projects that generate revenues. The bonds are then retired using income generated by the project.
- ❑ **Grant Programs.** The State of Michigan periodically makes grant funding available for park development, land acquisition, and other public purposes. Local community

foundations and private foundations may also have funding available for projects that fit their specific grant-making criteria.

PLAN MONITORING PROGRAM

To be effective, the planning process must be continuous. and must be part of the day-to-day decisions that affect the physical character of the Township. The Master Plan is a representation of the Township's policies for the future. If the Master Plan is to perform its proper function, it must be reviewed regularly and updated as conditions warrant.

The Planning Commission should evaluate the Master Plan regularly to ensure that Township policies are consistent with the objectives of the Master Plan. A comprehensive Master Plan review is required by the Michigan Planning Enabling Act at least once every five (5) years.

PUBLIC UNDERSTANDING AND SUPPORT

The necessity of citizen participation and understanding of the planning process and the Plan cannot be over-emphasized. A carefully organized public education program is needed to build support for and ease implementation of planning proposals. Residents' failure to support planning efforts, special assessments, zoning, or public improvements is more often than not the result of public misunderstanding of long-range plans. To organize public support most effectively, the Township must emphasize the reasons for the planning program and encourage citizen participation in the planning process.

Public education can be achieved through an informational program involving talks by the Township Planner and other experts, preparation of newspaper articles, and presentations at public meetings on current issues. Periodic community opinion surveys should be considered as another means by which Township officials can gauge changing attitudes and priorities.

A significant share of the responsibility of implementing this Master Plan rests on private efforts. Even one resident can have substantial influence in determining the appearance of the Township and influencing public opinion. The influence of an alert and informed citizenry may well compensate in a large part for limitations in the authority vested in the Township.