



# ***Master Plan 2007 - 2020***

**Village of Middleville**  
Barry County, Michigan

**UPDATED 2012**

VILLAGE OF MIDDLEVILLE  
BARRY COUNTY, MICHIGAN  
PLANNING COMMISSION RESOLUTION

At a regular meeting of the Village of Middleville Planning Commission held on Feb. 5, 2013, at the Middleville Village Hall, the following Resolution was offered for adoption by Commission Member French, supported by Commission Member McQueen:

A RESOLUTION RECOMMENDING ADOPTION OF THE UPDATED  
VILLAGE OF MIDDLEVILLE MASTER PLAN

WHEREAS, the Michigan Planning Enabling Act, MCL 125.3801 *et seq.* ("MPEA") authorizes the Planning Commission to prepare and periodically update a Master Plan for the use, development and preservation of all lands in the Village; and

WHEREAS, the Planning Commission prepared an updated Master Plan and submitted such plan to the Village Council for review and comment; and

WHEREAS, the Middleville Village Council received and reviewed the proposed Master Plan update prepared by the Planning Commission and authorized distribution of the updated Master Plan to the Notice Group entities identified in the MPEA; and

WHEREAS, notice was provided to the Notice Group entities as provided in the MPEA; and

WHEREAS, the Planning Commission held a public hearing on Feb. 5, 2013 to consider public comment on the proposed Master Plan update, and to further review and comment on the proposed Master Plan; and

WHEREAS, the Planning Commission finds that the proposed Master Plan update is desirable, proper, and reasonable and furthers the use, preservation, and development goals and strategies of the Village;

NOW, THEREFORE, BE IT HEREBY RESOLVED AS FOLLOWS:

The Village of Middleville Planning Commission hereby approves the proposed Master Plan update, including all of the chapters, figures, descriptive matters, maps and tables contained therein, and recommends adoption of said plan to the Village Council.

YEAS: French, Kruse, McQueen, Pullen, Reyff

NAYS: None

ABSENT/ABSTAIN: Newman

RESOLUTION DECLARED ADOPTED.

CERTIFICATION

I hereby certify that the above is a true copy of a resolution adopted by the Village of Middleville Planning Commission at the time, date, and place specified above pursuant to the required statutory procedures.

Dated: Feb. 5, 2013

By: Sue Reyff

Sue Reyff  
Planning Commission Secretary

VILLAGE OF MIDDLEVILLE  
BARRY COUNTY, MICHIGAN  
Village Council Resolution

At a regular meeting of the Middleville Village Council held on February 12, 2013 at the Middleville Village Hall, the following resolution was offered for adoption by Council Member Reyff, and supported by Council Member Van Noord:

**RESOLUTION 13-05**

**A RESOLUTION TO ADOPT THE UPDATED  
VILLAGE OF MIDDLEVILLE MASTER PLAN**

WHEREAS, following a public hearing held in accordance with Section 43 of the Michigan Planning Enabling Act, being Act 33 of the Public Acts of Michigan of 2008, as amended, the Middleville Planning Commission adopted a motion to approve an updated Village Master Plan and to recommend its adoption to the Village Council; and,

WHEREAS, the Middleville Village Council has previously asserted its right to approve or reject Master Plan.

NOW THEREFORE BE IT RESOLVED, that the Middleville Village Council accepts the recommendation of the Planning Commission and hereby officially adopts the updated Village of Middleville Master Plan;

RESOLVED FURTHER, that a copy of this resolution, certified by the Village Clerk, shall be incorporated on the inside front cover of said Master Plan, in accordance with the requirements of said Act 33 of the Public Acts of Michigan of 2008.

AYES: Lytle, Pullen, Reyff, Schellinger, Van Noord, Lutz

NAYS: None

ABSENT: Endsley

ABSTAIN: None

RESOLUTION DECLARED ADOPTED.

  
 \_\_\_\_\_  
 Elaine Denton, Clerk  
 Village of Middleville

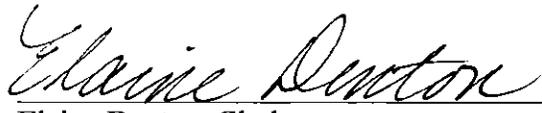
STATE OF MICHIGAN )

) ss.

COUNTY OF BARRY )

I, the undersigned, the duly qualified and acting Clerk of the Village of Middleville, Barry County, Michigan (the "Village"), do hereby certify that the foregoing is a true and complete copy of a resolution adopted by the Village Council at a regular meeting on the 12th day of February 2013, the original of which is on file in my office. Public notice of said meeting was given pursuant to and in compliance with Act No. 267, Public Acts of Michigan, 1976, as amended, including in the case of a special or rescheduled meeting, notice by posting at least eighteen (18) hours prior to the time set for the meeting.

IN WITNESS WHEREOF, I have hereto affixed my official signature on this 12<sup>th</sup> day of February 2013.

  
 \_\_\_\_\_  
 Elaine Denton, Clerk  
 Village of Middleville



## *Can You Imagine . . .*

*A picturesque Village center with a variety of bustling shops, period style storefronts and street lights, abundant flowers, discrete signs, friendly people, pleasant neighborhoods, nearby parks with children at play, narrow, tree-lined streets, public pathways all along the Thornapple River and workplaces to which employees can walk.*



*This will be our  
Middleville*



2007-2020 Master Plan

**Village of Middleville  
Planning Commission 2007**

Eldon Newmyer	Chairman
Shellie McQueen	Vice-Chairman
Fran French	Secretary
Cheryl Myers	Member
Charles Pullen	Member
Sue Reyff	Member
Tim Dickerson	Member

*Former Commissioners who worked on  
Master Plan*

Rhonda Fisk  
Lynn Steward  
Rick Winans

**Middleville  
Village Council 2007**

Lon V. Myers	President
Charles Pullen	Pro Tempore
Dorothy Corson	Trustee
Michael Lytle	Trustee
Daniel Parker	Trustee
Richard Reyff	Trustee
Phil Van Noord	Trustee

**Village Staff**

Ron Howell	Manager
Geoff Moffat	Planner
Chris Mugridge	Treasurer/ Finance Director
Jean Lamoreau	Clerk
Wayne Winchester	DPW Director
Jeanette Pollaccia	Administrative Assistant

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Village of Middleville  
100 E Main Street  
P.O. Box 69  
Middleville, MI 49333

Village Website  
[villageofmiddleville.org](http://villageofmiddleville.org)

## *To the Citizens of Our Community . . .*

*Positive changes in a community result from sound planning practices and a clear vision for the future. Take time today to look at our community in a different way. Why? Because too often we take the distinctive characteristics of our town for granted. When bad or undesirable things happen, people ask "How could this have happened?" Answers include, no one was paying attention, or, the community had no plan to prevent the bad thing from happening.*

*This Master Plan presents a future "vision" for our Village and nearby area. It gives emphasis to quality of life, small town character and a healthy, vital Downtown. Change is inevitable; ugliness is not. Growth is inevitable; loss of small town flavor is not.*

*Planning Commission  
Village of Middleville*

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A dramatic sunset over a mountain range. The sky is filled with dark, heavy clouds, but a large, bright opening in the clouds reveals a brilliant orange and yellow sun. The sun's rays are visible, creating a powerful glow. The mountains in the distance are silhouetted against the bright light. In the foreground, the dark silhouette of a tree is visible on the right side.

*Our special thanks to Mr. Lynn Steward, Planning Commission member, from 1996-2006, who worked tirelessly on this 2007-2020 Village Master Plan.*

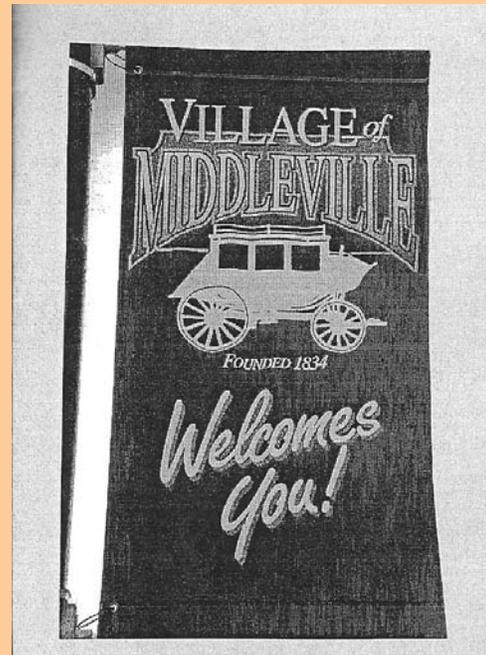
***Village Planning Commission 2007***

***Can You Imagine . . .***

## Chapter One

# Introduction

*A master plan presents a vision for the future community. Community character, amenities, and physical environment are addressed. Once completed, the Plan requires constant management to assure proper implementation.*



### WHY HAVE A PLAN?

The Village of Middleville and nearby areas are experiencing sustained population growth and new development. When land is converted from a natural state to man-made development, it does impact adjoining property as well as use of streets, utilities, parks, public safety services, schools and other public services.

This Master Plan provides a plan for land use types, densities and locations coordinated with plans for public infrastructure and public services. The basic objective for this plan is maintaining the good quality and character of the community by assuring that any new development or redevelopment is compatible with and enhances the neighborhood in which it is located.

## LEGAL AUTHORITY FOR PLANNING IN THE VILLAGE OF MIDDLEVILLE



The Village of Middleville Planning Commission is organized under terms of Michigan Public Act 285 of 1931, as amended. This Act is commonly referred to as the "Municipal Planning Act".

The Planning Commission was formed pursuant to the Act by the Village Council in the mid 1950's. The Commission has functioned continuously since then.

The Commission's primary responsibility under the act is to prepare and maintain a "basic plan" for the physical development of the Village. The Municipal Planning Act describes content of the basic plan as quoted in column two of this page.

The Act further prescribes Planning Commission membership. The Village of Middleville Planning Commission consists of nine members, each of whom is a Village resident. Each member is appointed by the Village President subject to approval by majority vote of Village Council.

Members of the Planning Commission serve three terms. One third of the Commission membership is subject to appointment each year. Members hold office until a successor is appointed.



The basic plan as described in Section 6 of the Municipal Planning Act *"The commission shall make and adopt a master plan for the physical development of the municipality, including any areas outside of its boundaries which, in the commission's judgment, bear relation to the planning of the municipality. The plan, with the accompanying maps, plats, charts, and descriptive matter shall show the commission's recommendations for the development of the territory, including, among other things, the general location, character, and extent of streets, viaducts, subways, bridges, waterways, flood plains, water fronts, boulevards, parkways, playgrounds and open spaces, the general location of public buildings and other public property, and the general location and extent of public utilities and terminals whether publicly or privately owned or operated, for water, light, sanitation, transportation, communication, power, and other purposes; also the removal, relocation, widening, narrowing, vacating, abandonment, change of use or extension of any of the foregoing ways, grounds, open spaces, buildings, property, utilities or terminals; the general location, character, layout and extent of community centers and neighborhood units; and the general character, extent and layout of the re-planning and redevelopment of blighted districts and slum areas; as well as zoning plan for the control of the height, area, bulk, location and use of buildings and premises. As the work of making the whole master plan progresses, the commission from time to time may adopt and publish parts thereof, any such part to cover 1 or more major sections or divisions of the municipality or 1 or more of the aforesaid or other functional matters to be included in the plan. The commission from time to time may amend, extend or add to the plan."* [MCL 125.36]

## PRIOR PLANNING ACTIVITIES

In the middle 1950's, a professional planner from Michigan State University was hired by the Village to prepare a Master Plan. A zoning ordinance was also adopted. Following this, Albert Builders, with assistance of the Village, constructed "the Downs", a large subdivision containing over 200 home sites on part of the Russell Bender Farm on the west side of town.

During the 1970's a number of businesses left the downtown area or relocated along M-37. In 1972, the Village prepared and adopted a second Master Plan. Copies of this and the earlier plan were lost in a 1986 fire, which destroyed the Village Hall along with many public records.

The current Master Plan for the Village was prepared during 1988 and adopted on March 7, 1989.

## PURPOSES OF A MASTER PLAN

Each community has physical characteristics and aspects making it unique from all others. Conversely, communities do share common issues and solutions are by way of tried and successful methods. Planning subject matter may vary by community since unique physical characteristics require unique approaches. A rural, farming community may be focused on preservation of prime farmlands whereas a community experiencing a rapid pace of growth may be focused on urban design and quality of life issues.

Above all else, the Master Plan should represent community consensus and "future vision" of the physical community. Once adopted, the Master Plan serves as the primary basis for zoning districts, zoning change decisions, special land use locations,

redevelopment, as well as future public investments. The Plan, once implemented, impacts use of land and value of property.

## WHO SHOULD USE THE MASTER PLAN?

**Residents:** Neighborhoods may change. Each resident should make a point of learning about the future land uses planned for their neighborhood and nearby areas. The open field next door in which neighborhood children play may belong to someone else. Each parcel has a certain right of use generally set forth in the Master Plan and zoning ordinance. Pro-active participation in assuring change consistent with the Master Plan is the single most effective activity residents can undertake. Simple opposition to a proposed development is not an effective advocacy in this day and age.

**Property Owners:** The Master Plan significantly affects "right of use" of land. Future zoning district changes, because they are largely based on the adopted Master Plan, will not occur when an owner's objectives conflict with planned future land use. Owners of undeveloped land should look at the Master Plan to obtain parameters for potential land use. Proper planning and growth management very often can not co-exist with property owner driven development objectives.

**Prospective Real Estate Purchasers:** In the real estate industry, the term "due diligence" means whenever a purchase of land is contemplated, the prospective buyer should research many matters prior to purchase. Typically, the purchaser will investigate good and marketable title, environmental questions, land survey and so

on. Not typical is research of governmental plans and regulations in place which directly impact land use options. The Master Plan defines acceptable categories of future land use.

If the purchaser's land use objectives are different from the Plan, the purchaser will be disappointed.

**Developers:** Would-be developers in the community should never buy vacant land absent thorough analysis of the Master Plan. Planned location of and type of land use, density of land use, utility service areas and growth management policies of the Plan should be clearly understood. Courts in Michigan have handled literally thousands of zoning cases, many of which involve a property purchaser or developer who disagrees with antecedent plans and zoning. Most often, municipalities win these "differences of opinion".

**Planning Commission:** Each year, the Village Planning Commission is required to make or give advice on zoning decisions. While each such decision must be decided on its own merits, one compelling area of information is "what does the Master Plan say about this property?" Any property owner seeking a change in zoning contrary to the adopted Plan, faces the almost certain prospect of being denied. The Plan, once adopted by the Planning Commission, is the Commission's "holy grail" regarding land use decisions.

**Village Council:** Changes to zoning districts and planned unit development decisions are made final by the Village Council on advice from the Planning Commission. Once again, in a vast majority of cases, the Council will render its decision in a manner consistent with the adopted Plan.

*In fact, research indicates the Village Council has rendered very consistent zoning decisions with respect to the 1989 Master Plan.*

The Village Council administers the General Fund, Major and Local Street Funds, Enterprise Funds and several other Village funds. The annual budget typically includes expenditures for capital projects such as streets, buildings and facilities, drains, parks, sanitary sewer, water, etc. These capital expenditures are made based on current and future needs. The Master Plan is used to identify areas expected to develop and in turn, areas requiring capital investments to provide needed public facilities. For example, as growth takes place, traffic volume increases occur which necessitate a road improvement. The Street Funds must include funds for the needed road improvement cost.

## THE PLANNING PROCESS

Planning, in simple terms, is a goal-oriented and continuous process which seeks to improve a community and create a better living environment. As such, this Master Plan is a tool by which to attain this goal. It is used by all interested parties making decisions and undertaking projects affecting the Village's future. Basically, the planning process consists of five steps undertaken by the Planning Commission. These are:

1. **Desire to Plan** – Middleville residents have expressed this desire for careful planning as evidenced by the public opinion surveys of 2002 and 2005.
2. **Analysis of the Existing Situation** – An analysis of the problems, assets and potential of the community. This analysis includes an evaluation of the

regional setting, existing land use patterns, public utilities and facilities, street network, population trends and natural features.

3. **Plan Design** – A graphic representation of the form and allocation of land uses to the design year of 2020. The Plan suggests how future growth should be directed into the most economical, healthful, aesthetically pleasing, and ecologically sound pattern of development.
4. **Plan Implementation** – The first step in the implementation phase is the adoption of this Plan by the Planning Commission with concurrence of Village Council. Then, through a joint effort with Thornapple Township as regards development management (such as a zoning ordinance) the Village can implement the provisions of the Plan. Another component of implementation is a **Capital Improvements Program (CIP)** by which the Village Council budgets the public improvements, which should be undertaken during the ensuing six years.
5. **Continued Planning** – In order for the Plan to have a lasting effect, it is necessary to follow through with a program of continuous planning. This involves periodic review and amendment of the Plan (an update every 5 years is called for in the Planning Act) as well as periodic amendments of the Zoning Ordinance, Subdivision Regulations, and other official policies and ordinances of the Village

which impact physical changes within the limits of the Village and nearby lands.

## LIAISON WITH OTHER LOCAL GOVERNMENTS

Effective January 9, 2002, the Municipal Planning Act was amended to insist each local government liaison with contiguous local governments and the County. To this end, the Village Planning Commission issued notices to Thornapple Township and the Barry County Planning Commission on 2/12/04 that it intends to prepare a Master Plan to update or replace the Plan now in effect.

Copies of adopted master plans for Thornapple Township and Barry County were obtained and studied. Chapter Three, Regional Influences, includes information from these plans and the implications for the Village of Middleville.

This Plan, in draft form, was distributed to Thornapple Township and the Barry County Planning Commission for the statutory comment period.

## CITIZEN PARTICIPATION AND INVOLVEMENT

This Master Plan is a product of significant participation by residents of the Village. Prior to beginning efforts to update the 1989 Master Plan, the Planning Commission developed a 29-question public opinion survey (see Appendix A). About 600 copies of this survey were distributed in the February 2001 issue of the *Town Crier* Newsletter. Eighty-Nine completed surveys were returned by Village residents. The consensus of opinions expressed in the surveys

returned, have been used by the Planning Commission in preparing this update Master Plan for the Village of Middleville.

In May 2002, the Planning Commission conducted a “futuring workshop” attended by Village residents. Participants in the workshop were divided into small working groups of 5-6 persons. Each small group was asked to list, in order of priority, the “top ten” planning issues facing the Village. In addition to the top three issues, each small group was asked to prepare a problem statement and strategies believed necessary to address the issue. To conclude the workshop, all participants gathered to hear presentations by spokespersons to each small group.

In 2004, a follow-up community opinion survey was distributed in the *Town Crier*. The results of this survey were also used by the Planning Commission in preparing this 2007-2020 Master Plan.

## **Purpose of 2012 Update**

Prior to the adoption of this document, Middleville had been implementing the Master Plan prepared and adopted in 2007. Constant social and other changes justify periodic review and maintenance of a plan, so the plan reflects current trends, objectives and challenges. In addition, the Michigan Planning Enabling Act, being Act 33 of 2008, as amended (this enabling legislation supersedes that noted on page 1-2), stipulates that a comprehensive master plan be reviewed at least once every five years and revised accordingly as needed.

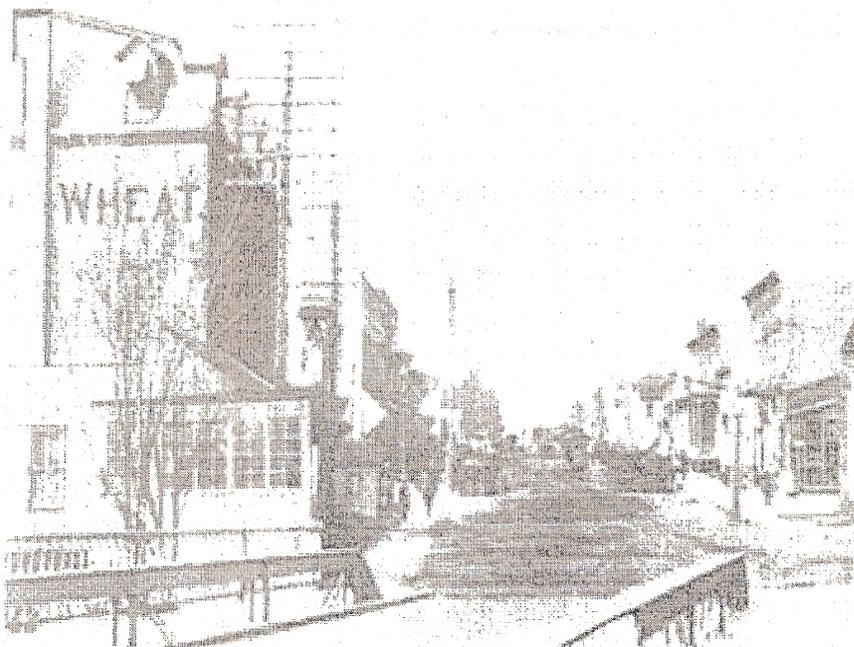
As part of the process to complete the 2012 updates, the Village Planning Commission reviewed 2010 Census data and the policy elements of the Plan for

relevance given today’s specific issues, trends and potential challenges. The Village reviewed the 2007 Plan for areas where it could be strengthened, corrected, updated, or otherwise changed to meet the current needs and desires of residents and property owners in the Village, without undermining the policy foundations set in the 2007 document. The Planning Commission found that the bulk of the 2007 Plan still reflected current issues and consequently, only minor edits and updates ensued. The Chapters updated in 2012 include Chapter 1, Chapter 4, Chapter 7, Chapter 9 and Chapter 13.

## Chapter Two

# Area History

*The settlement history of Thornapple Township and the Village of Middleville has been as one community. The area included in the Village evolved as the focal point of a far-ranging agricultural community. For purposes of this abbreviated history, the story line for the Township and Village are the same.*



### HISTORY PRIOR TO 1830

The Michigan Peninsula has been occupied for more than 10,000 years by indigenous Indian population. Indians frequenting northwest Barry County were the Algonquins. Local tribes included Ottawa, Chippewa, and Pottawatomi. All tribes were migratory with the most coming to the Thornapple area to fish and hunt in the winter. The Ottawa migrated from Canada, the Chippewa from eastern Michigan and the Pottawatomi from Wisconsin.

Lands along the Thornapple river were heavily forested with oak trees as the predominant species. Lands beyond were forest or "oak openings" of prairie grass. Fish and wildlife were in abundance due to the variety of habitats, hence the reason these tribes frequented the area. The Thornapple river connecting the Grand River watershed afforded an important means of travel for the Indian tribes.

**Figure 2-1**  
Indian Settlements, Trails  
and Trading Posts

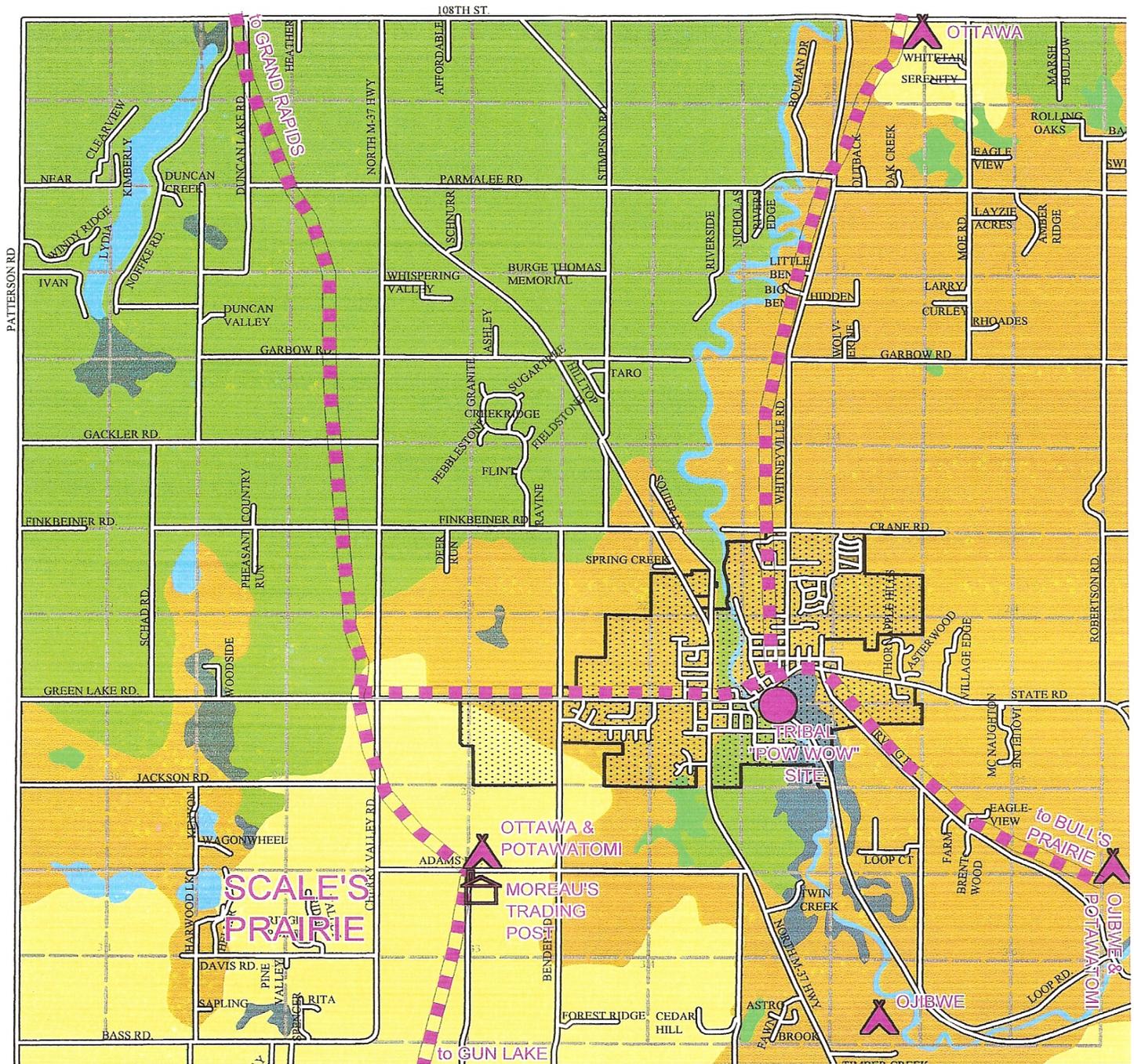
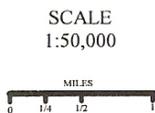


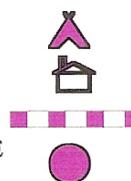
Figure 2-1  
Indian Settlements, Trails  
and Trading Posts  
Thornapple Township and Middleville



BCLIS February 2002

**LEGEND:\***

- INDIAN VILLAGE
- TRADING POST
- INDIAN TRAIL
- TRIBAL "POW WOW" SITE



**PRESETTLEMENT VEGETATION**  
circa 1830

- BEECH-SUGAR MAPLE FOREST
- LAKE/RIVER
- MIXED CONIFER SWAMP
- MIXED HARDWOOD SWAMP
- MIXED OAK SAVANNA
- OAK-HICKORY FOREST
- SHRUB SWAMP/EMERGENT MARSH

\* ALL LOCATIONS SHOWN ARE APPROXIMATE

SOURCE: MDNR

The life of all tribes was centered on the search for food. Diet consisted primarily of water-fowl, deer, fish, bear and naturally growing grapes, berries and nuts.

The men were hunters, foragers and warriors. The women did most of the work including cooking, growing crops, packing/unpacking for migration and rowing of boats.

First contacts between Indians and Europeans began around 1644. The French maintained steady relations with most Algonquin tribes from 1644 through 1761. In 1761, the British defeated the French and took over. The nation was established in 1776. The Northwest Territory Ordinance of 1787 established civil authority over all of Michigan.

As settlers began moving westward from the east coast, they encroached traditional tribal lands. As a result, the various Indian tribes made peace treaties with the Federal government.

In 1821, Governor Cass and Solomon Sibley were commissioned by the Federal government to negotiate a treaty with the Ottawa, Chippewa and Pottawatami tribes. The treaty was signed on August 29, 1821. All land "south of the Grand River" was ceded by the tribes to the Federal government.

Between 1800 and 1835 settlers began coming to Michigan. They came first by horseback and wagon. After the completion of the Erie Canal in 1825, many came by barge to Buffalo and then by steamboat to Detroit. From there they again used land transportation. Many settlers also sailed by boat on the Great Lakes and settled in towns along the shores. The 1830 population of Michigan was 31,640 people, an increase of 22,875 over the 1820 population of 8,765.

## THE 1830 – 1870 PERIOD

The first white settler in Thornapple Township and the founder of Middleville was Calvin G. Hill, known during his life as "Squire Hill". In 1834, Mr. Hill purchased 400 acres of land, situated on both sides of the Thornapple River, all within the original Village. He and his family settled the land permanently in 1835

From 1835 – 1850, growth of the settlement was very slow. The first meeting of the "school inspectors" occurred on April 12, 1838 and Thornapple Township was divided into "five districts". There were 19 school age children, who attended school in a "log hut" on the west Bank of the Thornapple River, just north of what is now Main Street.

In 1840, the log hut was replaced by a frame school house and in 1854 a "brick school house" was built on the site of what is now Calvin Hill Park. During 1871, the former "middle school" was constructed along West Main Street, adjacent to First Street.

The first meeting of the Board for the "Town of Thornapple" (Thornapple Township) was held on April 2, 1838. Thornapple Township included the areas of what are now Yankee Springs Township, Irving Township, and Rutland Township. Prior to 1843, the Village settlement was called "Thornapple".

The Village area was surveyed by Calvin Hill in the years prior to 1850 (Squire Hill was also the County Surveyor). The formal Village survey was recorded on April 12, 1859. On July 3, 1839, B.S. Dibble was appointed postmaster. While community sentiment favored "Dibbleville" as the settlement's permanent name, postmaster Dibble did not like that name.

Instead, he named the settlement "Middleville" owing to the fact it was about midway between Kalamazoo and Grand Rapids on the stage coach route between those cities. The stage coach was operated by the "Good Intent Lines". Middleville was incorporated on May 6, 1867 and the first meeting of the Village Council was held May 25, 1867.

By 1860, the commercial center of Middleville was well established, consisting of numerous business store fronts along Main Street. It served as the center of commerce for the area of Thornapple, Irving, Rutland and Yankee Springs Townships.

### **The 1870-2000 Period**

Prior to 1870, the community of Middleville was just one of many rural, pioneer villages in Michigan. The town really "took off" when the railroad came through after the Civil War. As a matter of fact, the war itself had a great influence in Middleville as it did across the nation. Young men left town, some never to return, and those that did were profoundly changed. With advent of the railroad, Middleville was truly connected to the rest of the state and country.

Industry came to the community in the late 1800's, joining the French flour mill that had brought recognition with the Lily White brand. Industry has had its ups and downs, but through the past 125 years Middleville has been blessed with consistent industrial employment.

The original Keeler Brass Company gave way to a garment manufacturer, and that gave way to a knitting mill, which in turn became a shoe manufacturing facility. In latter years this same building, located on the banks of the river, was the site of early

White Water Heater Company, Baby Bliss garment manufacturer, a sweeper bag maker and a machine shop. That building was removed in the 1980's and is now the Stagecoach Park site. On the north side of Main Street, at the bridge, the old French mill was removed after an historic run of more than 100 years ago. That site is now Sesquicentennial Park.

World War I came and citizens of Middleville marched off to war with the rest of the nation. Those early years were mostly a time of boom, and when the Great Depression rolled around, Middleville folks suffered too. Being still an agricultural based economy, there was a lot of bartering back and forth to keep the society going.

By World War II, Middleville was on the threshold of becoming a major economic, social and education center of the northwest part of Barry County. In the 1930's the rural schools had consolidated. Through the efforts of local people and a grant from W. K. Kellogg, the Thornapple-W.K. Kellogg Consolidated School District was founded. A new school was built and completed in 1931 on the west side of town.

Jerry White had founded his company just before World War II and his water heater firm became a gun casing factory during war production years. In the early 1950's he moved his plant from downtown Middleville to the current site of the Bradford White Corporation, on the town's northeast side. The company is now the largest employer in Barry County, turning out over 5,000 water heaters a day with a worldwide market.

Following WWII, Middleville boomed along with the rest of the country. Consumer goods were in great demand and

numerous merchants established businesses. By the middle '50's there were over 50 merchants on Middleville's main street. There was a grocery store, drug store, variety store, clothing stores, the "St. James Hotel", several restaurants, bars and three barber shops.

In 1957, State Highway M-37 was reconfigured through Middleville. Prior to that time, M-37 turned west at the intersection of Broadway and Main Street, continuing two miles to Cherry Valley Road, then north to Caledonia. The revised route is present day M-37. The old downtown portion of the Village could not compete with the accessibility of M-37 and fell into decline.

During the period 1960-1980, the supermarket, pharmacy, bank and post office left the downtown area for locations fronting M-37. Restaurants and automobile facilities also located on the highway. As new businesses came to the community, almost all of them located on M-37.

Fires have dramatically changed the "old downtown" profile. On the north side of the main block, the old theater and retail building burned, followed by the St. James Hotel several years later on the south side. The buildings adjacent to the old hotel site were the next to burn, including the bank and Village hall.

The original flour mill, abandoned as a working feed mill in the early 1980's, was eventually razed, as was the Keeler Brass Works factory building along the Thornapple River south of the bridge. The Village purchased the former White office building on Main Street and converted it to their new Village Hall during the 1980's and ten years later Thornapple Township

remodeled the former grocery store on Main Street and became the current Township Hall.

With demise of the railroad through Middleville in 1979, a portion of the route was purchased by the Village and in the summer of 2001, 3.5 miles of it was paved as the Paul Henry Trail. In Middleville, the trail currently culminates at Stagecoach Park.

Middleville has, for over 125 years, been the home of many industrial companies. In addition to Bradford White Water Heater Company, Middleville Engineering and Lescoa were once primary places of employment. The Cold Spring Creamery at one time made butter by the ton that was shipped all over Michigan. Baby Bliss, manufacturers of baby clothing, moved from Grand Rapids in the 1970's and produced products known all over America. Simpson Industries became a large supplier of automotive parts, and is currently in operation as Metaldyne.

After 1980, growth of the Village and Township slowed and few changes occurred. Today, the Village of Middleville and Thornapple Township are once again experiencing growth. New housing, commercial and industrial investments are very evident.

## TRANSPORTATION HISTORY

The Thornapple River was used for travel by Indians and early settlers in canoes. Indian trails offered pathways for trappers and early explorers.

As settlers moved to the area, wider pathways were cleared, allowing passage of wagons. These unimproved pathways were impassable for portions of each year due to mud and washouts.

### ***Stage Lines***

The original “mass transit” systems were the stagecoach lines which operated throughout Michigan. Middleville was on the stage line operating between Kalamazoo and Grand Rapids. The “Good Intent Line” began operating through Middleville about 1838. With the advance of a railroad into the area, stagecoach service began to decline during the late 1850’s and early 1860’s.

### ***“Corduoy” Roads***

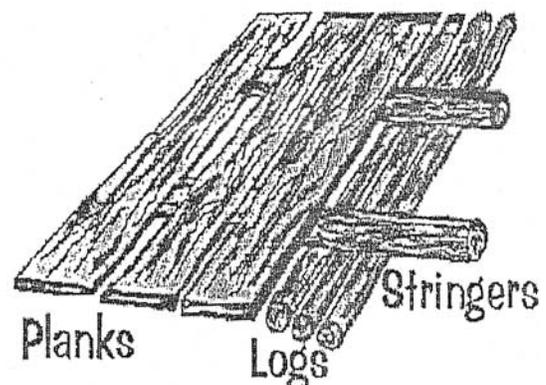
Popular in Michigan in the period 1830 to about 1850, corduroy roads were made by placing logs, often of different sizes, over a swampy area. Although depressions were filled with gravel or with smaller logs, the corduroy road was usually rough and sometimes even dangerous. Logs “floated and rolled” in the slippery mud and often horses, “frightened by the unstable footing, plunged and floundered and at times sank one or more legs between the loose logs.”

### ***Plank Roads***

In Contrast to corduroy roads, plank roads were made of boards and as long as they were properly maintained, provided a good

running surface. They were constructed by laying planks of pine or oak, eight to sixteen feet long and three to four inches thick, across “sleepers” or “stringers” which were placed parallel to the direction of the road. Ditches were dug on either side of the road to provide proper drainage.

Most mid-nineteenth century Michigan roads were only rutted paths through swamps and forests. Entrepreneurs formed private companies to build corduroy roads of logs to solve this problem. Later, they built the smoother plank roads. To pay for building the roads, they charged travelers a toll.



### ***Typical Plank Road Construction***

The materials used typically came from whatever wood was locally available. In wet areas, the stringers were placed on top of the logs. A dirt or gravel area alongside the plank road allowed wagons to pull over or pass each other.

Most highway authorities claim that the plank road was introduced in New York State in 1844. This overlooks the conclusive evidence however that seven years earlier, in 1837, the Michigan State Legislature granted a charter to the Detroit,

Plymouth, and Ann Arbor Turnpike Company for a "timber road made of good, well-hewn timber." The Legislature granted similar charters to other private companies.

Private control of plank roads, or turnpikes, as they were commonly called, reflected the failure of state and local governmental units to provide an adequate highway system. Despite the tremendous influx of settlers to Michigan in the decades after 1830 (the population rose from 31,640 in 1830, to 212,267 in 1840, and to 341,591 in 1850), the State of Michigan did practically nothing to provide roads.

Local units of government made feeble attempts to build roads, but the total results were hopelessly inadequate. Even the Federal government program failed to meet the needs of Michigan settlers. Prior to 1837, Congress had authorized the construction of a number of "territorial" roads, ostensibly for military reasons, but the construction of these roads proceeded so slowly that they failed to assist settlement. Thus the task of road construction fell by default to the private corporations.

Financial support for the plank road companies came mainly from local sources. Well-to-do farmers, manufacturers, merchants and professional men invested in these ventures.

The cost of building a plank road ranged from one to three thousand dollars per mile depending upon the condition of the road bed, accessibility of timber and gravel, and the cost of labor. Bridges over rivers and streams were costly and put a heavy financial burden on the plank road companies. Toll-houses also added to the initial capital outlay.

The Michigan Legislature not only set up specifications for the construction of the plank roads, but regulated the tolls as well. A charge of two cents a mile was made for a wagon or carriage drawn by two horses and one cent a mile for every sled or sleigh so drawn. If more than two horses were used, an additional charge of three-quarters of a cent per mile for each additional animal was levied. A toll of one cent per mile was made for a vehicle drawn by one horse, as well as for a horse and rider. Tolls of one-half cent a mile were levied for every score of sheep or swine; for every score of "neat cattle", two cents a mile.

Despite the tolls, plank roads were extremely popular during their heyday. As long as they were properly maintained they were a great improvement over the dirt roads, which were impassable for many weeks of the year. Trips which took from four to six days on dirt roads were cut ten to fourteen hours over plank roads.

Despite the initial popularity of these roads and the hopes of their promoters, the "plank road craze" did not last long. The roads remained in good condition for the first three or four years, but after that they needed constant attention. Planks loosened, warped and decayed and had to be replaced often. It was estimated that annual repairs cost from twenty to thirty percent of the original cost of the road.

By 1900 only twenty-three of the original 202 plank roads were in operation, and of these only a short stretch of the Detroit-Howell road was actually made of planks. All of the others had been replaced with gravel, although they were still popularly called "Plank roads." In the first decade of the twentieth century the remaining private roads, coming increasingly under public scorn, were turned over to the state or purchased by street railway companies.

Thus ended one of the most unique phases of Michigan's highway history.

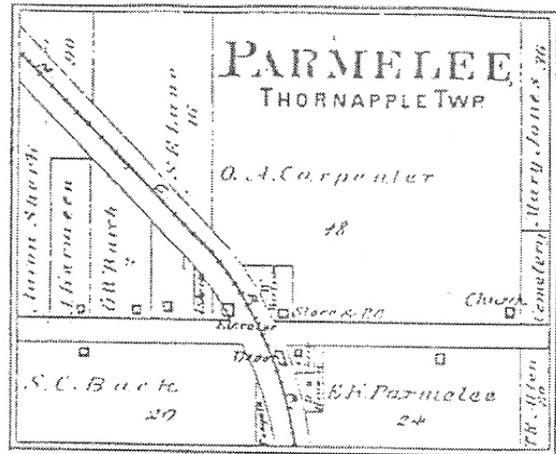
Of note, during the 2001 reconstruction of W. Main Street between the Thornapple River and M-37, remnants of an original plank road were unearthed some 4-5 feet below the existing roadbed.

**RAILROAD HISTORY**

Michigan residents embraced railroads from the first horse drawn car on the wooden tracks of the Epic and Kalamazoo Railroad in 1836.

The original railroad line through Thornapple Township and Middleville was chartered May 4, 1846 as the Grand River Valley Railroad Company. The railroad construction was completed during the Spring of 1870. The Grand River Valley Railroad Company made an agreement on August 15, 1870 with the Michigan Central Railroad Company to operate the railroad line between Grand Rapids and Jackson. This line operated continuously from 1870 until 1959, when passenger service ended. The Parmelee Station was constructed by area residents during 1874. This station is no longer standing. The Middleville Train Depot was constructed about 1920 and is similar in design to the Hastings Station, built in 1922.

After 1959, the rail line was briefly abandoned. The line was again operated by the Kent, Barry and Eaton Connecting Railroad with State subsidies. However, when State funding ran out, the rails were removed during the 1980's. The Paul Henry Thornapple Trail has been built on a 5 mile segment of the former railroad right-of-way south/southeast of the Village.

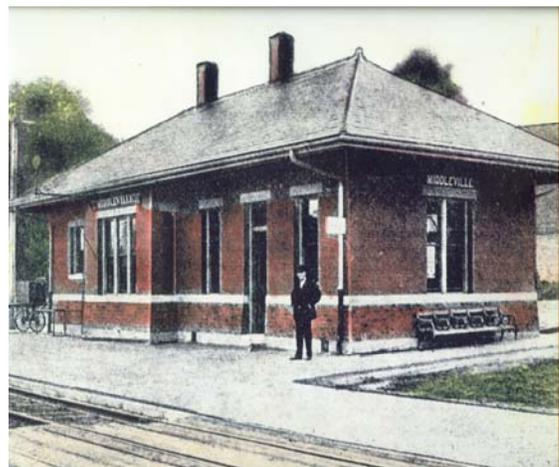


Plat map of Parmelee Village, 1873

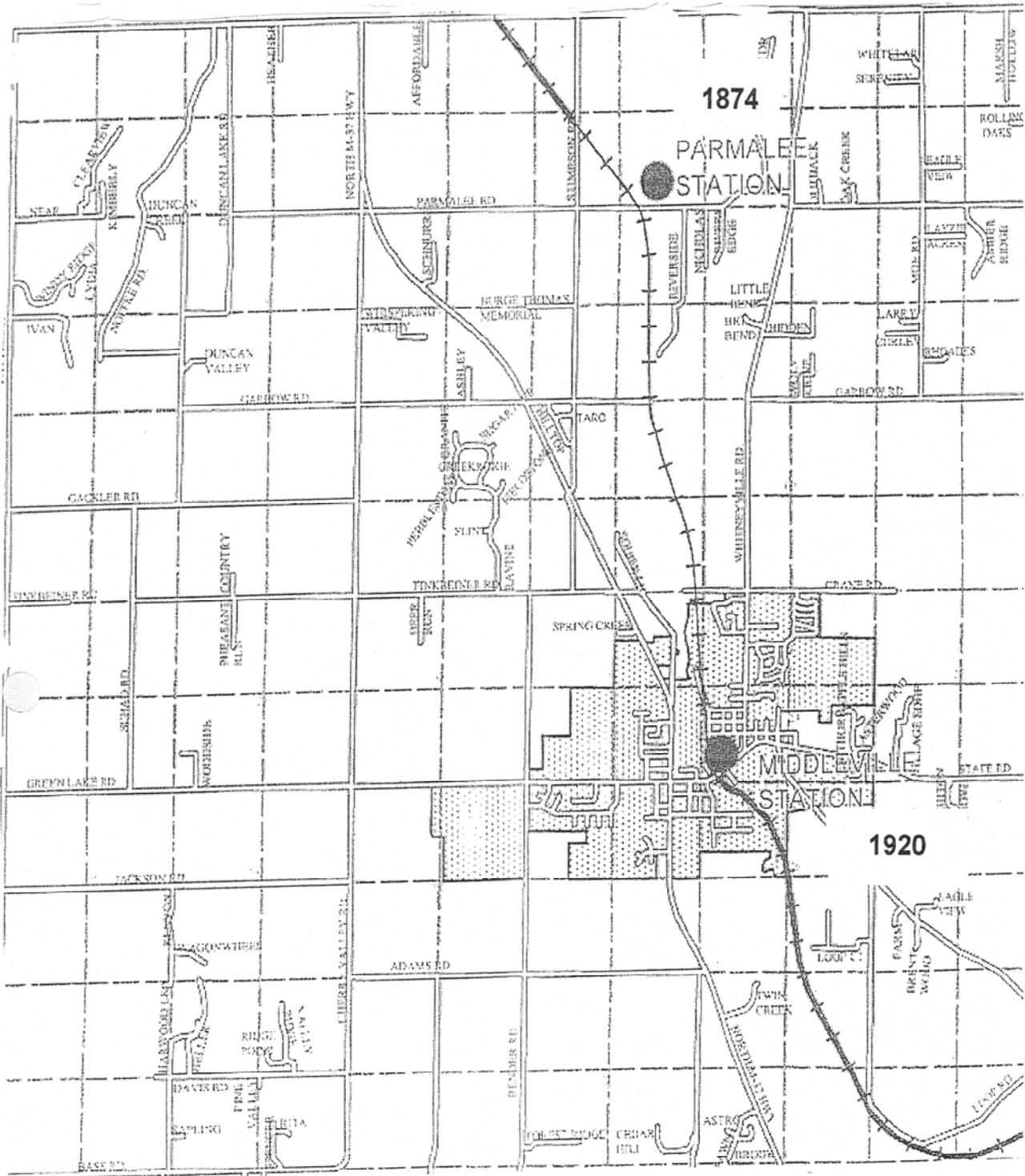
**Plat of Parmelee Village, 1873**



**Photo of Parmelee Station, Circa 1875**



**Photo of Middleville Station, Circa 1920**



**Figure 2-2** The location through Thornapple Township and Middleville of the 1846-1870 Grand River Valley Railroad.

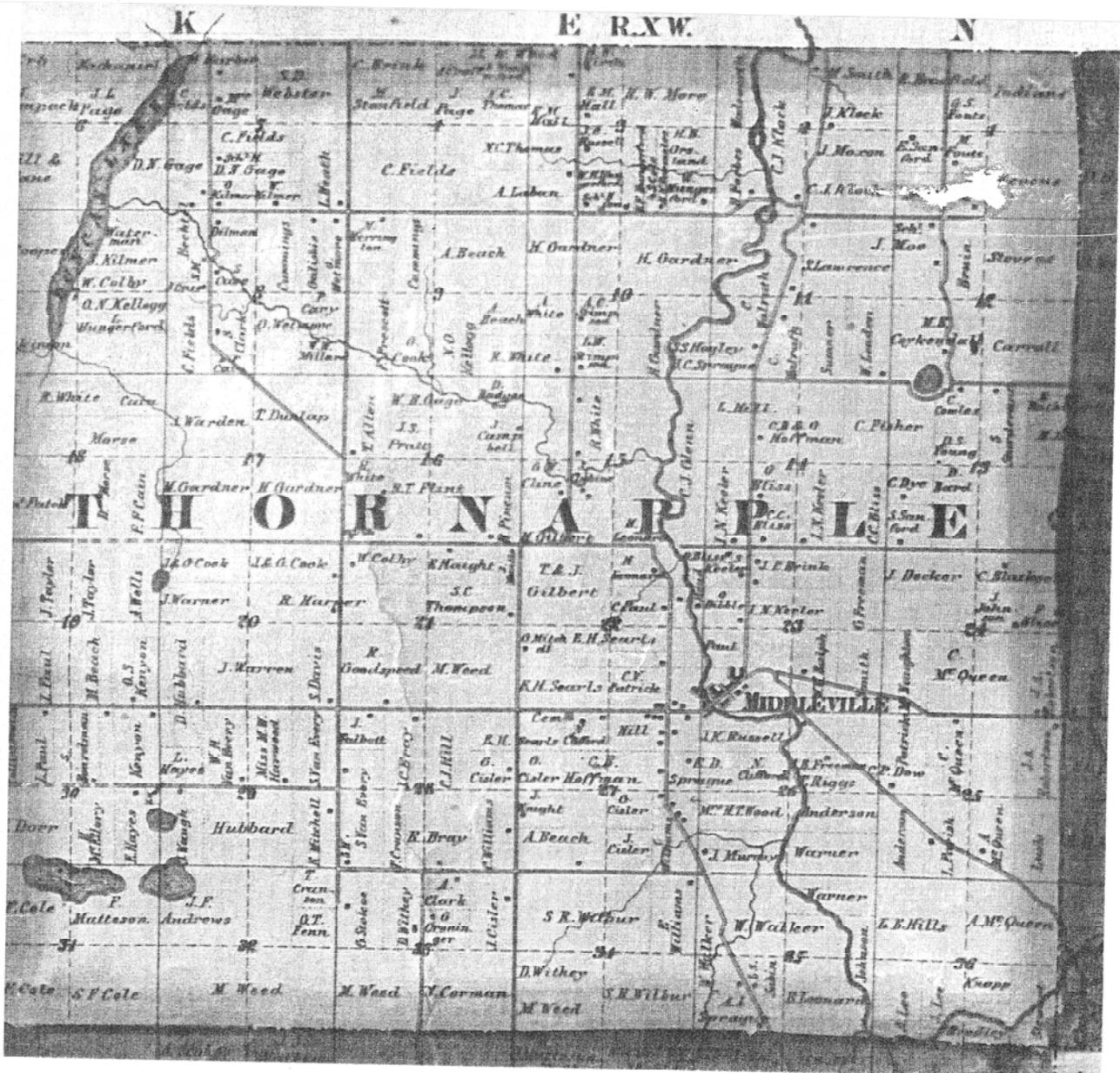
*From Whence the Names Came . . .*

**Barry County:**

“Barry County was named in 1839, during the term of President Andrew Jackson. The County was named after William T. Barry (1785 – 1835), Post Master General of the United States.

**Thornapple Township:**

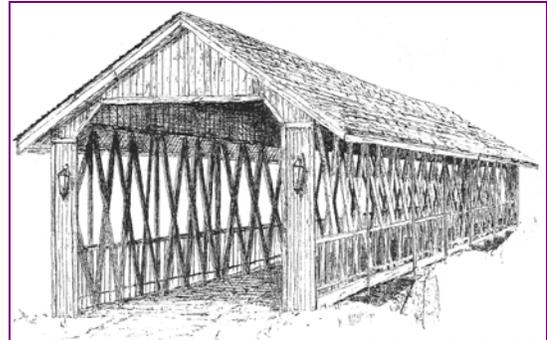
The first “annual meeting” of the “Town of Thornapple” was held on April 2, 1838. Thornapple Township was named after the river flowing through it.



## MIDDLEVILLE'S BRIDGES

The ongoing debate about Middleville having just one bridge across the Thornapple River is not new. For over 158 years, Middleville/Thornapple area has been served by one bridge.

In 1843, W.W. Paull constructed the first bridge over the Thornapple River to serve the settlement then called "Thornapple".



*The original covered bridge of 1843*

In viewing historic photos, it appears the original covered bridge was replaced during 1877 by contractor Orin Leonard.



*A replacement bridge, circa 1877 with walkways on both sides.*

Middleville's existing bridge was built in 1929. This bridge has served well, being over 77 years old, and today carries a great number of heavy trucks. High on the state's critical bridge list, it will be replaced, though it is intended that the design of the bridge, including railings, will be retained.



*Current Bridge, built 77 years ago,*



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[sos.state.mi.us/history/explore/museums](http://sos.state.mi.us/history/explore/museums)*

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*Donald Boysen  
Thornapple Township Supervisor*

### **Chapter Three**

## **REGIONAL INFLUENCES**

The pace and type of change within any community very often is influenced by external factors. Location, proximity to a metropolitan area, transportation systems, cultural and recreational opportunities and/or employment centers are each factors influencing change.

Thornapple Township and the Village of Middleville are very much influenced by their proximity to the Grand Rapids Metropolitan Area. Thornapple and Middleville comprise an “edge community”, meaning they are in close proximity to the urbanizing area and are now, and will be, influenced by expansion of the Metropolitan area and in-migration of people.

The 1994 “*Metropolitan Blueprint*” projected the “metropolitan will grow by approximately 30% by the year 2015.” Figure 3-1 is an excerpt from the Blueprint depicting the 1994 and 2015 urbanized area for Grand Rapids. The term urbanized typically suggests that a high majority of privately owned land is developed.

The urbanized or developed area boundary shown for 2015 extends to the south line of Caledonia Township (near 108<sup>th</sup> Street). It is important to realize the “urbanized area” does not mean rural, undeveloped lands exist outside the boundary. More likely it is “sub-urban fringe” type of land use consisting of pockets of development mixed with open spaces and farmland.

### **M-37/Southbelt Freeway**

M-37 is an important highway, running north/south through Middleville and Thornapple Township. M-37 is a state route providing the most direct connection to the Grand Rapids Metropolitan area from northwest Barry County. M-37 has an interchange with the M-6 “South Beltline” freeway. The portion of M-6 between M-37 and I-96 in Cascade was opened to traffic in December 2001. The segment of M-6 from M-37 west to US-131 and beyond opened for traffic in the fall of 2004.

The effects of the M-6 freeway on Middleville and Thornapple Township have (a) significantly reduced travel time from northwest Barry County to most locations in the metropolitan area, (b) made easier commuting trips, and (c) allowed greater efficiency for motor freight services.

It is expected the M-6 Freeway travel efficiencies will cause significant traffic volume increase along M-37 from Hastings northward. County primary roads connecting with M-37 will also experience traffic increases. Such routes as West State Road, West Main/Green Lake and Cherry Valley Road will likely experience marked increase in traffic volumes during the next decade.

### **Whitneyville Road – US 131 Connector**

During January of 2006, an announcement was made from Congressman Elhers office regarding federal funding for a new bridge across the Thornapple River and a 4.2 mile reconstruction of Crane Road and Finkbeiner Road. The route improvement is intended to provide an

# Generalized Existing and Potential Urban Growth Pattern

Source:  
Metropolitan Blueprint

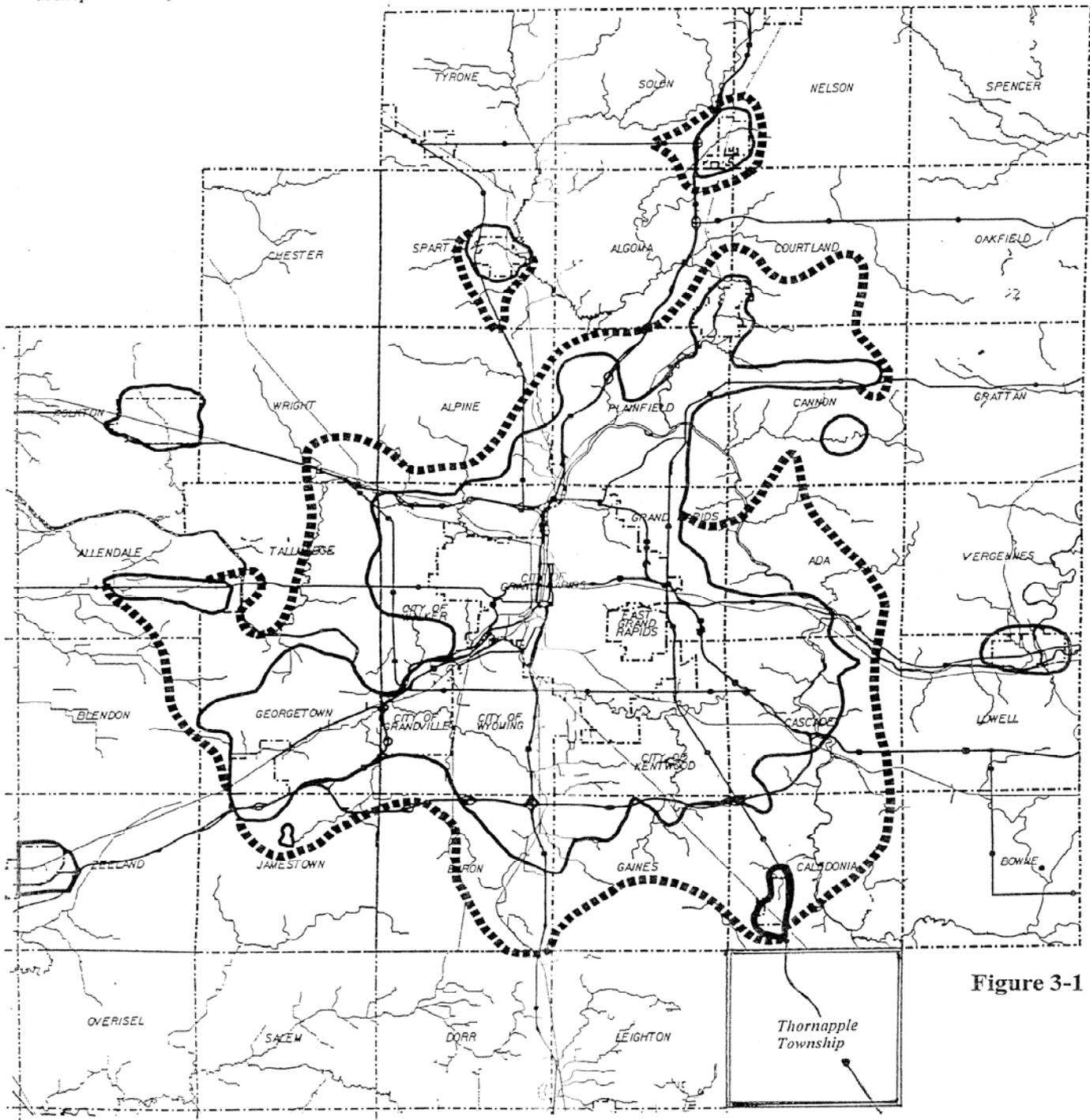


Figure 3-1

**Sponsoring Agencies:**  
 Grand Rapids and Environs Transportation Study • Michigan Department of Transportation  
 Michigan Department of Commerce • Grand Valley Metropolitan Council

**Consultant Team:**  
 WJ Engineering & Science • The WBDC Group • William J. Johnson Associates  
 Underberg Consulting • Lillian F. Dean • Williams & Associates

**LEGEND**

———— Existing and Near Term Urbanized Area

----- Area of Probable Urban Development - 2015

Scale in Miles

0 2 4

all-weather east/west connection between Whitneyville/Grand Rapids Street and US 131 and points west.

The route is generally described as beginning at Grand Rapids Street and Whitneyville Road then west along Crane Road to a bridge crossing of the Thornapple River connecting with Finkbeiner Road. Then, Finkbeiner Road from west of the Thornapple River to Patterson Road. At Patterson, the route will connect with 142<sup>nd</sup> Avenue extended and run west to US 131. The route will continue west to I-96 near Holland.

Once completed, this new roadway will (1) divert truck operations from downtown Middleville, (2) facilitate motor freight operations and (3) establish a direct east/west commuter link with the south portions of the metro area and west to the Holland area. During 2006, the schedule for this road/bridge improvement was accelerated and construction is expected to begin in the fall of 2007 with completion in late 2008.

### **Life Style (Migration)**

A trend evident in Thornapple Township and Middleville during the 1990 decade will very likely continue well into the 21<sup>st</sup> century. Families are migrating from urbanized areas within the greater Grand Rapids areas to "rural areas" on the urban fringe and beyond. City dwellers who migrate outward typically seek large footprint houses on home sites of 1.5 acres or more or a home in a pleasant subdivision within the Village. Migrating families are seeking rural character, small town flavor away from

congestion and hustle of urban places. The irony of this trend will be that as more families migrate, Middleville will grow and the rural ambiance of Thornapple Township may be threatened by such growth.

Careful growth management practices may help retain the community character people seek. Cluster housing which retains significant open spaces; ample parkland areas within the developing areas of the Village; well considered site selection, site design and architectural styles for a new commercial and industrial development as well as high quality public infrastructure can each contribute to preserving desired community character.

### **Hastings**

The City of Hastings is located 11 miles southeast of Middleville on M-37. Hastings serves as the County seat and serves as an alternative to Grand Rapids for employment and shopping opportunities for residents of Middleville.

### **Yankee Springs Recreation Area and Middleville State Game Area**

Middleville serves as the "front door" or entrance to the Yankee Springs Recreation area. Located approximately seven miles south of the Village this is a State of Michigan operated recreation facility which consists of over 4,000 acres of land and providing recreation opportunities for residents in west Michigan, other areas of Michigan as well as north Indiana and Illinois. Yankee Springs recreation area

contains nine lakes with public access sites, campgrounds, horse and hiking trails and historic sites. This area is capable of handling 15,000 to 20,000 people, which can serve to boost the economy of Middleville and Thornapple Township during peak vacation periods.

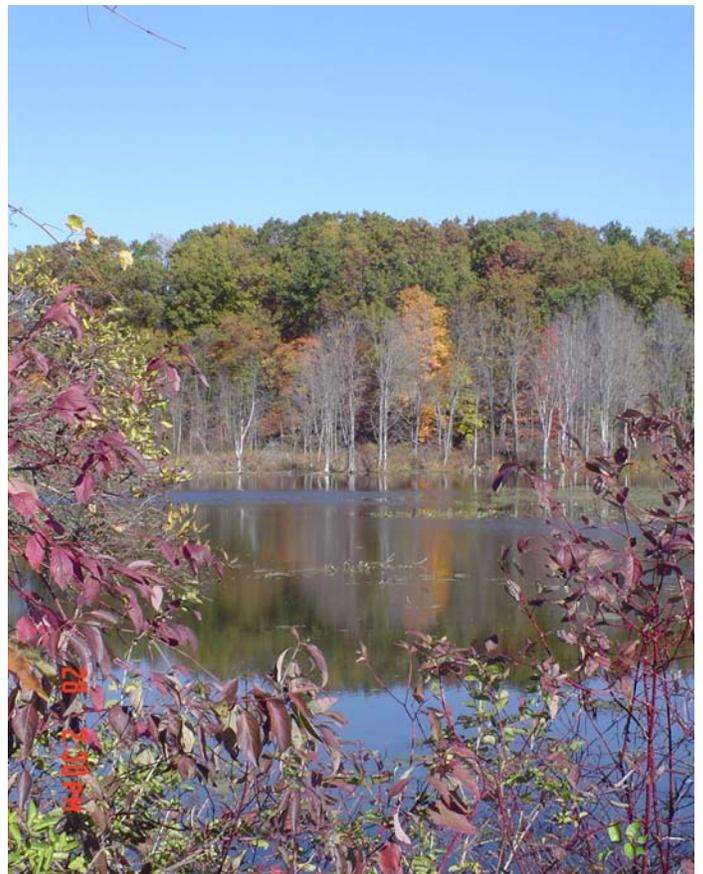
The Middleville State Game Area, located in the eastern portions of Thornapple Township and within Irving Township, offers excellent hiking, hunting and snowmobiling opportunities. The North Country Trail passes through this game area.

### **Natural Resources and Characteristics**

Natural features influence and in some cases dictate the land uses for specific areas of the community. The predominant natural feature within the Village is the Thornapple River, its flood plain and accompanying wetlands. The Thornapple River divides the Village and Thornapple Township with only the Main Street Bridge connecting the two sides. The 100-year flood plain will limit development along the Thornapple River to upland areas. A large wetland area exists within the Village south of Main Street. This wetland is formed by water impoundment south of the Middleville dam. Wetlands, like flood plains, are protected by State of Michigan law from alteration. An area between State Street and Spring Park is seasonally wet and in fact is a very rare wetland fen. Any development in this area adjacent to the fence should be preceded by a wetland analysis which can be conducted by Department of Natural Resources officials

These natural areas should not be regarded so much as a hindrance to development but as opportunities for enhancement of existing land use and natural amenities unique to Middleville and Thornapple Township.

All riverfront areas within the Village should come into public ownership or reserved by public access easements. This will prevent building encroachments, tree clearing and other man-made changes thus preserving the natural shoreline.



## CHAPTER FOUR

# POPULATION, HOUSING AND ECONOMIC INDICATORS

*Each citizen needs a place to live. Each new dwelling occupies land.*

*Each new dwelling built impacts the natural environment and neighborhood as well as use of public streets, demand for local government services, schools and the like.*

*Each new citizen needs work, shopping and recreation.*

*Change occurs one new citizen at a time.*

*Over time, each separate decision to live in our community will result in significant and obvious changes.*

## INTRODUCTION

A clear understanding of population, housing and economic data about the Village of Middleville, Thornapple Township and nearby communities is essential to the Master planning process. Population increase means demand for more housing. Housing value and household income are indicators of housing affordability.

This Chapter brings forth relevant data and suggests likely future trends. Planning for these trends is the essence of preparing a viable Master Plan, one which proves useful.

### In This Chapter . . .

- Population 1960 – 2010
- Effect of Migration
- Age of Population Age Distribution
- Household size
- Population Forecasts
- Housing Characteristic
- Housing Unit Forecast
- Land Consumption Needs
- Economic Indicators

## Population

Middleville and Thornapple Township are experiencing sustained population growth. Grand Rapids metropolitan area expansion and migration to outlying areas appear as the basic reasons. The Village of Middleville offers a desirable small community setting not found in the metropolitan area. Thornapple Township has a rural character and scenic environments that people find attractive.

Middleville and Thornapple are situated in a general area experiencing population growth. Governmental units within northwest Barry County are used as data comparative places in this chapter. The northwest quadrant of Barry County is influenced by metropolitan area growth expansion more than any other area in the County.

**Table 4-1** presents historical population data for the Village of Middleville and Thornapple Township. **Table 4-2** offers comparison of historical population data with nearby communities.

Between 1980 and 2000, the Village population increased from 1,798 to 2,721, a change of 51.3%. The Township population for the same period increased by 1,463 persons or 58.5%. Nearby communities also exhibited significant population increase during this period. Growth patterns continued between 2000 and 2010 for both the Village and Township, as illustrated in Table 4-1.

**Table 4-1**  
**Population Trends 1960-2010**  
**For Village of Middleville and Thornapple Township**

						1990- 2000 change		2000- 2010 change
Place	1960	1970	1980	1990	2000	%	2010	%
Village of Middleville	1,196	1,865	1,798	1,966	2,721	38.4%	3,319	21.9%
Thornapple Township	1,092	1,498	2,501	3,300	3,964	20.1%	4,565	15.1%
Combined Community	2,288	3,363	4,299	5,266	6,685	26.9%	7,884	17.9%

Source: U.S. Census of Population

**Table 4-2**  
**Comparative Population Trend 1970-2010**  
**Middleville, Thornapple and Surrounding Areas**

Location	1970	1980	1990	2000	Change 1990 – 2000	2010	Change 2000 – 2010
Village of Middleville	1,865	1,797	1,966	2,721	38.4%	3,319	21.9%
Thornapple Township*	3,363	4,299	5,226	6,685	26.9%	7,884	17.9%
Gaines Township	8,794	10,364	14,533	20,112	38.4%	25,146	25.3%
Caledonia Township	3,126	4,205	5,369	7,862	46%	10,821	37.6%
Bowne Township	n.a.	1,719	1,907	2,743	43.8%	3,084	12.4%
Irving Township	1,282	1,608	1,903	2,682	40.1%	3,250	21.1%
Rutland Township	2,107	2,444	2,801	3,646	30.2%	3,987	9.4%
Yankee Springs Township	1,482	2,251	2,947	4,219	43.2%	4,065	-3.6%
Wayland Township	n.a.	n.a.	1,625	3,013	85.4%	3,088	2.5%
Leighton Township	2,354	2,772	3,069	3,652	19%	4,934	35.1%
Barry County	38,166	45,781	50,057	56,755	13.4%	59,173	4.3%

Source: US Census and Michigan Information Center

\*Includes Village

It is interesting to note on **Table 4-2** that over 60% of the Barry County population increase between 1980 and 2000 occurred in the four townships comprising the northwest area of the County. Thornapple Township, which includes Middleville, grew by 2,387 people during this period. Through the period 1980 – 2000, Thornapple Township, the Village of Middleville and adjacent communities have all exhibited strong population gains. This trend accelerated over the recent decade, with over 80% of the growth in the County between 2000 and 2010 occurring in the northwest area of the County.

## Effects of Migration on Population

Natural population increase or decrease is directly related to birth and death experience within the existing population. When total live births exceed deaths in a given time period, the population will increase and vice versa. When population change experience is different from the natural population cycle, this difference is due to net in-migration or out-migration.

Data for the 1990-2000 period suggests significant in-migration is occurring to Middleville and Thornapple Township. For the County as a whole, live births exceeded deaths by 2,768 or about 5.5% of the 1990 base population. Therefore, population change of less than +5.5% suggests net out-migration of people to other areas. Change of more than 5.5% indicates a net in-migration.

Population in the Village of Middleville between 1990 and 2000 grew by 725 people or 36.8% of the 1990 base population. The expected natural population increase of 136 people (5.5%) for the Village was exceeded by 619 people. Therefore, population change in the Village is clearly being impacted by in-migration of people from outside the immediate area.

The population of Thornapple Township between 1990 and 2000 grew by 1,459 people or 27.9% of the 1990 base population. The expected natural population increase of 287 people (5.5%) was exceeded by 1,172 people. Therefore, population change within the Township is also being impacted by in-migration of people.

Net in-migration rate for the Village is 31.5% and the net in-migration rate for the Township is 22.4%. The four-Township area of northwest Barry County (Thornapple, Irving, Rutland, and Yankee Springs) experienced a net in-migration rate of 29.7%.

The net migration data for the Village, Thornapple and the northwest quadrant of Barry County documents this entire area is being impacted by significant in-migration. Due to geographic proximity with the greater Grand Rapids metropolitan area, it is reasonable to infer much of the in-migration of people to northwest Barry County is originating from metropolitan Grand Rapids. This may be enhanced by the opening of the M-6 expressway which improves access to the southeast portion of the Grand Rapids metropolitan area and therefore to Barry County. Over 65 percent of the 1990 - 2000 Barry County population increase occurred in the four townships comprising the northwest area of the County. Thus, when compared with 1980-2000 data, as well as the 2000-2010 data, the comparative rate of population change in the four-township area is increasing.

## Age of Population

The median age in Thornapple Township was 33 years in 2000 and it has increased to 36.2 years in 2010. In the Village of Middleville, the median age was 29.7 years in 2000, and it increased to 32.4 years in 2010. **Table 4-3** provides a median age comparison with surrounding communities.

**Table 4-3**  
**Median Age Comparisons**

Place	Median Age 2000	Median Age 2010
Thornapple Township	33.0	36.2
Village of Middleville	29.7	32.4
Yankee Springs Twp.	37.3	44.1
Irving Township	34.1	38.5
Rutland Township	37.2	41.5
Barry County	36.9	41.2
Michigan	35.2	38.9

Source: Census 2000, 2010

As can be seen from **Table 4-3**, the median age in Thornapple Township is 2.7 years less than the state median age and less than all nearby Townships listed. The Village median age is significantly less than other nearby areas. The 2000 median age for Thornapple and Middleville, as compared to other areas, suggests young family formations among new residents to the area.

## Age Distribution

Comparing age distribution of Thornapple Township and the Village of Middleville over a span of time provides a measure of change useful in evaluating housing demand, recreation needs and future school enrollments.

**Table 4-4**  
**Comparative Age Distribution**  
**Village of Middleville/Thornapple Township**  
**1990-2010**

Age Group (years)	MIDDLEVILLE				THORNAPPLE TOWNSHIP			
	1990	2000	2010	% Change 2000-2010	1990	2000	2010	% Change 2000-2010
Under 5	175	250	313	25.2	474	530	614	15.8
5 – 19	561	721	771	6.9	1,291	1,807	1,845	2.1
20 – 24	84	191	170	-10.9	388	340	385	13.2
25 – 54	834	1,159	1,368	18	2,296	2,984	3,280	9.9
55 – 64	130	169	293	73.3	389	513	882	71.9
65+	182	231	404	74.8	388	511	878	71.8

Source: U.S. Census 1990, 2000, 2010

The 1990 - 2000 age distribution experience for the Village clearly demonstrates the age groups under 5 and 20-24 had significant gains during the decade. Each group increased at a substantially higher rate than the general population (42.9% and 127.4% compared to 38.4% for the general population). The 5-19 age group slightly declined as a percent of total population as did the 55-64 and 65+ age groups.

Slightly different trends were evident for Thornapple Township during the 1990-2000 period. The school age 5-19 group increased significantly faster than the general population (40% versus 26.9%). The under-5 age group declined as a percent of total population. Significantly, the 20-24 age group declined by 12.4%. All groups in the 25-65+ ages closely tracked general population gains.

For the time period between 2000 and 2010, the age group between the ages of 20 and 24 declined in the Village while those under 5 and over 55 increased substantially. In the Township, the fastest growing age groups were 55 to 64 and 65 and over.

### Persons Per Household

Type and size of housing is influenced by the number of persons in residence. **Table 4-5** provides 1990, 2000 and 2010 information on the number of persons per household. A comparison of data for the Village and Township with Barry County, State of Michigan and the United States is included.

**Table 4-5**  
Average Persons Per Household (dwelling)  
1990, 2000 and 2010

Governmental Unit	1990	2000	2010	Change per Household, 1990 – 2010
Middleville, Village of	3.07	2.81	2.81	-.26
Thornapple Township	3.17	2.91	2.89	-.28
Barry County	2.82	2.65	2.65	-.17
State of Michigan	2.80	2.67	2.53	-.27
USA	2.78	2.65	2.63	-.15

Source: U.S. Census 1990, 2000, 2010

### HOUSING DATA

Table 4-6 illustrates that the number of housing units in the Village and Township continue to rise.

**Table 4-6**  
Housing Units, 1970 – 2010  
Village of Middleville/Thornapple Township

	1970	1980	1990	2000	2010	2000-2010 % Change
Village of Middleville	542	596	702	1,050	1,206	14.8
Thornapple Township	467	828	1,052	1,333	1,616	21.2

Source: U.S. Census, 1970-2010

**Table 4-7**  
**Housing Occupancy, 2010**  
**Village of Middleville/Thornapple Township**

	Total Housing Units	# Units Occupied	% of Vacant Housing Units
Village of Middleville	1,206	1,164	3.5%
Thornapple Township	1,616	1,529	5.3%

Source: U.S. Census, 2010

**Table 4-8**  
**Owner-Occupied/Rental Housing Units, 2010**  
**Village of Middleville/Thornapple Township**

	Total Housing Units	Owner-Occupied	Renter-Occupied	Vacant Units
Village of Middleville	1,206	789	375	42
Thornapple Township	1,616	1,520	9	87

Source: U.S. Census, 2010

**Table 4-9**  
**New Housing Units 2000-2012**  
**Village of Middleville/Thornapple Township**

	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10	'11	'12 <sup>(1)</sup>
Village	6	30	64	56	25	22	11	11	2	4	1	5	2
Township	33	30	42	51	43	45	22	11	7	6	4	7	6
Total	39	60	106	107	68	67	33	22	9	10	5	12	8

<sup>(1)</sup> As of July 2012

**Table 4-10**  
**Population and Housing Units**

	Village of Middleville	Thornapple Township	Total Village And Township
<b>Total Est. Population</b>	3,319	4,565	7,884
<b>2000-2010 Population Change</b>	598	601	1,199
<b>2000-2010 Percent Change</b>	21.9%	15.1%	17.9%
<b>Total Housing Units</b>	1,206	1,616	2,822
<b>2000-2010 Housing Unit Change</b>	156	283	439
<b>2000-2004 Percent Change</b>	12.9%	21.2%	17.2%

## POPULATION PROJECTIONS

For the purposes of this Plan, statistical averaging techniques were utilized to project Middleville’s population growth to the year 2030. These approaches are adequate to give a general sense of growth trends but they have limitations especially in areas of rapid growth or decline that may run counter to statistical trends. Nevertheless, they help to give a sense of scale to land use requirements as well as the demand for various public services and capital improvements. The following summarizes the projection techniques.

The Growth Rate Method projects future population growth or decline based on the rate of growth in the Village in the past. Utilizing the growth rate method, the following assumes that growth in the future will occur at the same average rate as has occurred annually between 1980 and 2010. According to Census data, Middleville grew 2.8% annually between 1980 and 2010.

**Table 4.11**  
**Growth Rate Method**

	Average Annual Growth Rate			
	<u>1980-2010</u>	<u>2010</u>	<u>2020</u>	<u>2030</u>
Middleville	2.8%	3,319	4,374	5,765

The Arithmetic Method is similar to the growth rate method in that population projections are based on growth that occurred in preceding decades. This method, however, bases population growth on the overall average increase in the number of persons per year, rather than on growth rates. The following projections are based on the average increase of 50 persons annually between 1980 and 2010 in Middleville.

**Table 4.12**  
**Arithmetic Method**

	Average Annual Increase (Number of Persons)	Population <u>2010</u>	<u>2020</u>	<u>2030</u>
Middleville	50	3,319	3,819	4,319

The Building Permit Method portrays the new housing trend based on building permit data. It was determined that the Village issued an average of 20 new residential building permits annually between 2002 and 2011. Assuming that building activity will continue at this rate calculated between 2002 and 2011 this method utilizes Middleville’s average household size of 2.81 persons (2010 U.S. Census data), to calculate the growth in population. In other words, this method projects an additional 56 persons per year. Using this figure, the following projects Middleville’s population using the building permit method.

**Table 4.13**  
**Building Permit Method**

	Average No. of <u>Permits/ Year</u>	Persons Per <u>Household</u>	2010 <u>Population</u>	<u>2020</u>	<u>2030</u>
Middleville	20	2.81	3,319	3,879	4,439

The anticipated population levels for the Village using each of the population techniques are summarized below. By averaging the results of these methods, it is reasonable to predict that the population will approach approximately 4,024 persons by the year 2020 and approximately 4,841 by 2030.

Each of the projection techniques illustrated here assumes the Village will continue historic patterns of growth. It is important to keep in mind that growth in housing and population in Middleville will be impacted by many factors. These include the types and quality of housing permitted or encouraged within the Village, the image of the Village as a desirable place to live, the public school system, the overall economic health of West Michigan and, of course, the availability of land area suitable for residential development. It is also important to review these trends every few years to monitor the growth that is taking place.

## Population Projection Summary

	<b>2010</b>	<b>2020</b>	<b>2030</b>
Growth Rate	<b>3,319</b>	<b>4,374</b>	<b>5,765</b>
Arithmetic	<b>3,319</b>	<b>3,819</b>	<b>4,319</b>
Building Permits	<b>3,319</b>	<b>3,879</b>	<b>4,439</b>
Average	<b>3,319</b>	<b>4,024</b>	<b>4,841</b>

## ECONOMIC INDICATORS

Three measures of economic health of an area are trends for (1) property valuations, (2) employment, and (3) household income. The following narrative provides data for each. Barry County data is used except where localized data is available.

### (1) Equalized Value Change

Using data from the Barry County Equalization Department, changes in State Equalized Value were tabulated for the period 1990 – 2003 and then updated for 2011. These changes were defined by class code for agriculture, commercial, industrial residential and developmental. The latter is defined by the Township Assessor as “vacant land intended for new development.”

As can be seen on **Table 4-14**, real property valuation increased significantly for all classes during the 1990-2003 period. Of note, actual change in each class during the 2000-2003 period far exceeded the previous two five-year periods 1990-95 and 1995-2000.

**Table 4-14**  
**Change in State Equalized Value**  
**1990-2011 by Real Property Class**  
**Thornapple Township (includes Village of Middleville)**

Shown In 000's

Class Code	Class Name	1990	1995	2000	2003	2011
101	Agriculture	7,896	8,942	9,674	22,080	24,183
201	Commercial	3,084	4,395	7,654	13,763	19,554
301	Industrial	2,640	2,758	4,530	3,706	7,853
501	Residential	43,173	74,556	106,740	171,134	197,696
601	Developmental	500	638	516	2,091	1,501
<b>Total SEV</b>		57,295	91,303	129,115	217,777	266,105

Source: 1990, 1995, 2000, 2003, 2011 Equalization Reports, Barry County

The 2000-2003 changes in developmental (111%), residential (61%), commercial (85%) and industrial (93%) each indicates strong investment activity and market driven increases in land value. The recent decline in equalized value of developmental property likely reflects the decline in development activity and the resulting decline in values over the past several years.

An allied indicator of investment is valuation of personal property. Exclusive to business, personal property is taxed just as real property. **Table 4-15** provides equalized value of declared personal property for business in the Township, including the Village of Middleville.

**Table 4-15**  
**Change in State Equalized Value**  
**Business Personal Property**  
**1990-2012**  
**Thornapple Township (includes Village of Middleville)**

Personal Property Valuation	1990	1995	2000	2003	2010	2011	2012
	7,044	10,847	17,501	29,997	15,602	15,315	19,442

Source: Barry County

Business investment in personal property increased some \$22,953,000 between 1990 and 2003. Much of this investment was in equipment at two major manufacturers located in the Village, Bradford White (water heaters) and Metaldyne (auto parts). Personal property valuation declined after 2003, but has begun to increase recently. The decline in personal property in the mid-decade may be a reflection of the closure of Metaldyne.

For the year 2000, the Barry County work force totaled 33,475 persons. The U.S. Census 2000 provides data for 12 basic categories of employment. The 2000 workforce by category is shown in **Table 4-16**. Note that for 2010, the total Barry County workforce has decreased to 30,390 persons.

**Table 4-16**  
**Major Employment by Industry - 2000, 2010**  
**Barry County**

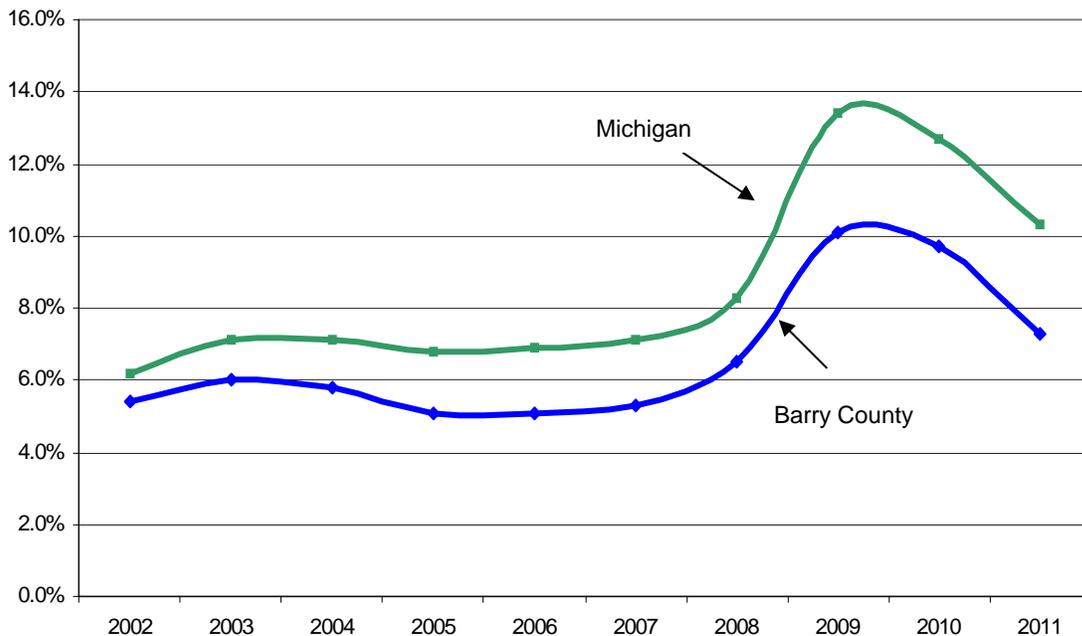
<b>Industry Segment</b>	<b>Percent of Total Employment, 2000</b>	<b>Percent of Total Employment, 2010</b>
Agriculture, Forestry, Mining, etc.	2.5%	2.5%
Construction	7.9%	7.6%
Manufacturing	29.6%	24.7%
Wholesale and Retail	13.9%	13.2%
Transportation and Warehousing	3.6%	2.9%
Information	1.8%	1.4%
Finance, Insurance, Real Estate	6.0%	6.2%
Professional, Mgmt, Administrative	5.2%	7.4%
Education, Health & Social Services	16.7%	19.7%
Arts, Entertainment & Hospitality	5.7%	5.5%
Other Services	4.3%	5.6%
Public Administration	3.0%	3.3%

Source: U.S. Census Bureau, DP-3 Profile of Selected Economic Characteristics: 2000 and U.S. Census Bureau, 2008-2010 American Community Survey 3-Year Estimates

**(2) Employment**

Figure 4-1 reflects the recent recession and illustrates that the jobless rate increased dramatically in the County and State overall in 2008 and 2009. Unemployment began to decrease, however, in the later part of 2009 and the decline continued in 2010 and 2011. The unemployment rate in the State was almost 4 points higher in Michigan than in the County in 2009, and the County's jobless rate remains lower than the State's today.

**Figure 4-1  
Comparative Unemployment Rates 2002-2011**



**Barry County Employers**

While County level economic data is regularly monitored by Census and research firms, localized data is more difficult to discern. However, by reviewing building permit data and in-field contacts with new firms investing in the community, a capsule of data indicative of recent trends was compiled by sector.

At the time the 2007 Master Plan was prepared, it was recognized that the Middleville industrial park located on Grand Rapids Street was designated a renaissance sub-zone in 2002. At that time, four vacant lots existed. By the end of 2004, new buildings occupied each of the four vacant lots. As of April 1, 2004 one new building was under

construction, one has received site plan approval and a third is pending. Except for three lots owned by Bradford White, land sites in the industrial park are committed.

Bradford White employs an estimated 950 persons. The firm has expanded several times over the past decade and is reaching the capacity at its current site. This will limit future physical expansion of the current plant. Pro-active measures by local government may be necessary to assist Bradford White with plant modifications required to meet growing product demand as the Company plans to add employees, modernize the plant and increase annual production of hot water heaters.

According to the Barry County Chamber of Commerce and Economic Development Alliance, following are the largest employers in Barry County.

**Table 4-17**  
**Major Employers - 2012**  
**Barry County**

<b>Company</b>	<b>Location</b>	<b>Employees</b>
Bradford White Corp	Middleville	950
Pennock Health Services	Hastings	442
Hastings Mutual Insurance Co	Hastings	423
Flexfab LLC	Hastings	418
Hastings Area School System	Hastings	354
Thornapple-Kellogg Schools	Middleville	303
Viking Corporation	Hastings	301
Hastings Manufacturing Co LLC	Hastings	261
Thornapple Manor	Hastings	186
County of Barry	Hastings	182
Delton-Kellogg Schools	Delton	175
Wal-Mart Stores Inc	Hastings	150
Magnum Care (Tendercare)	Hastings	131
Family Fare Supermarket	Hastings	122
Middleville Tool & Die Co	Middleville	97
Bliss Clearing Niagara Inc.	Hastings	92
J-Ad Graphics Inc	Hastings	87
Hastings City Bank	Hastings	83
Kmart Corp	Hastings	78
Hastings Fiber Glass Products	Hastings	75

### **Home – Workplace** **COMMUTING PATTERNS**

Census 2000 identified resident-county to workplace county commuting flow for Barry County residents. Of 26,921 commuters identified, 10,973 or 40.8% lived and worked within Barry County. Of the remaining 15,948 commuters, the work destination counties were as shown in Table 4-18 below. Figure 4-3 illustrates graphically where County

residents work, and Figure 4-4 shows where Township (including Village) residents commute for employment and also where Township and Village employees live.

**Table 4-18**  
**Workplace Commuting Patterns for Barry County Residents**

<b>Work Place County</b>	<b>Total Daily Commute</b>	<b>Percent of Daily Commutes</b>
Barry	10,973	40.8%
Allegan	1,212	4.5%
Calhoun	2,800	10.4%
Eaton	754	2.8%
Kalamazoo	2,423	9.0%
Kent	6,919	25.7%
Other MI Co.	1,672	6.2%
Other State	168	0.6%
<b>TOTAL</b>	<b>26,921</b>	<b>100%</b>

Figure 4-2

### Barry County Commuting Patterns

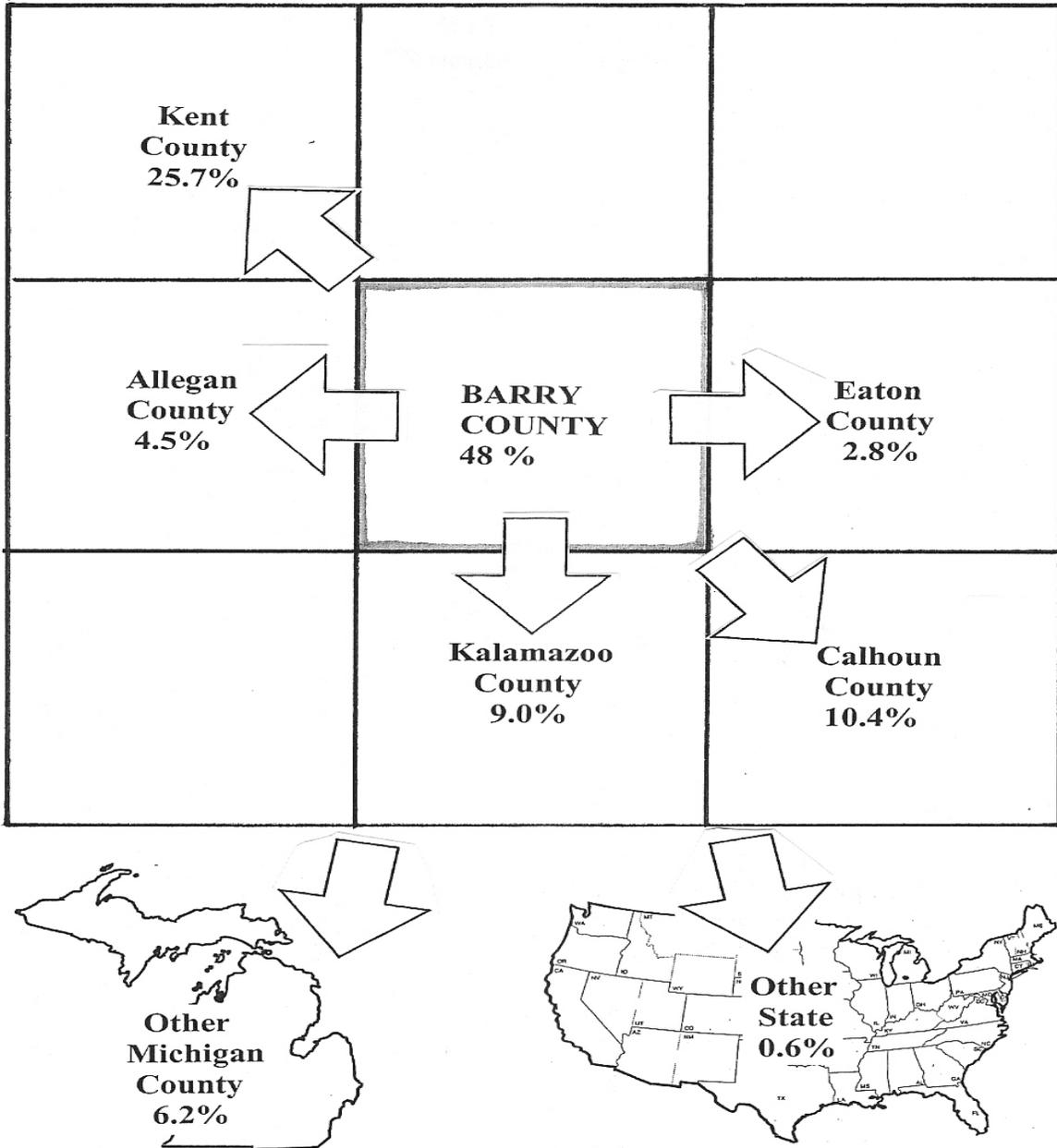
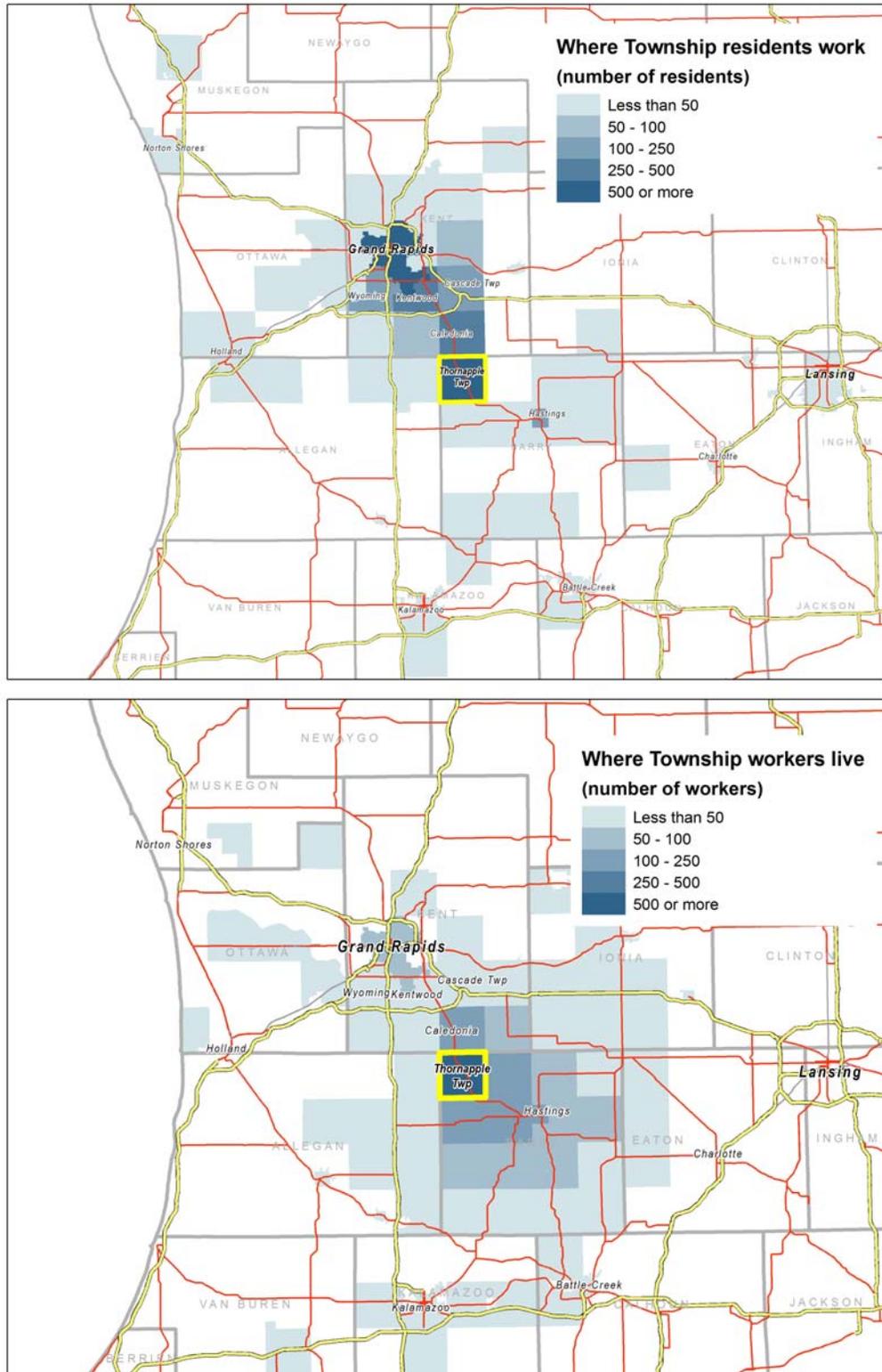


Figure 4-4

### Where Residents Work / Where Workers Live Township and Village



### (3) Household Income

**Table 4-19** presents median household income from 1990, 2000 and 2010 census data. Middleville (38.2%) and Thornapple Township (41.1%) experienced slower rates of household income gain than Barry County (53.4%), Yankee Springs Township (45.9%) and Irving Township (60.1%) between 1990 and 2000. However, Middleville, Thornapple Township and Yankee Springs Township experienced greater increases in median household income than other nearby communities and the County overall between 2000 and 2010.

**Table 4-19**  
**Median Household Income 1990, 2000 and 2010**  
**Middleville, Thornapple and Other Areas**

	1990	2000	% Change	2010	% Change
Village of Middleville	\$30,346	\$41,947	38.2%	\$51,019	18.7%
Thornapple Township	\$37,796	\$53,333	41.1%	\$63,220	18.5%
Yankee Springs Twp.	\$36,090	\$52,661	45.9%	\$63,220	20%
Rutland Twp.	--	\$52,065	--	\$52,683	1.1%
Irving Twp.	\$31,556	\$50,532	60.1%	\$58,938	16.6%
Barry County	\$30,516	\$46,820	53.4%	\$51,395	9.7%

Thornapple Township in 2000 had the highest median household income at \$53,333 of any community in Barry County. Middleville had the lowest at \$41,947. Median income is the level at which 50% of the households earn less and 50% of households earn more. In 2010, both Yankee Springs Township and Thornapple Township had the highest median household incomes in the County.

## **Chapter Five**

### **NATURAL FEATURES**

The Village of Middleville has a variety of natural features which will influence future man-made development. Natural features fall into categories of regulated, (such as wetlands, flood plains) and unregulated. Unregulated natural features include soils, significant slope areas, woodland, wildlife habitat, groundwater quality, unmapped floodways, and scenic areas. Certain wildlife and fauna are protected if they appear on an endangered or threatened species list maintained by State or Federal agencies.

Regulated natural features are those in which man-made development is restricted or prohibited. For purposes of this plan, regulated natural features include (1) 100-year flood plain and (2) wetland areas identified in the Natural Wetlands Inventory or from other sources.

#### **100-Year Flood Plain**

100-year flood plain areas are those determined to have a likelihood of being inundated by water once in any 100-year period. The 100-year flood plain has been delineated for all of the Thornapple River through the Village. **Map 5-1** depicts the 100-year flood plain.

#### **Construction of Buildings**

Construction within a 100-year flood plain is generally prohibited. Construction permits issued by the

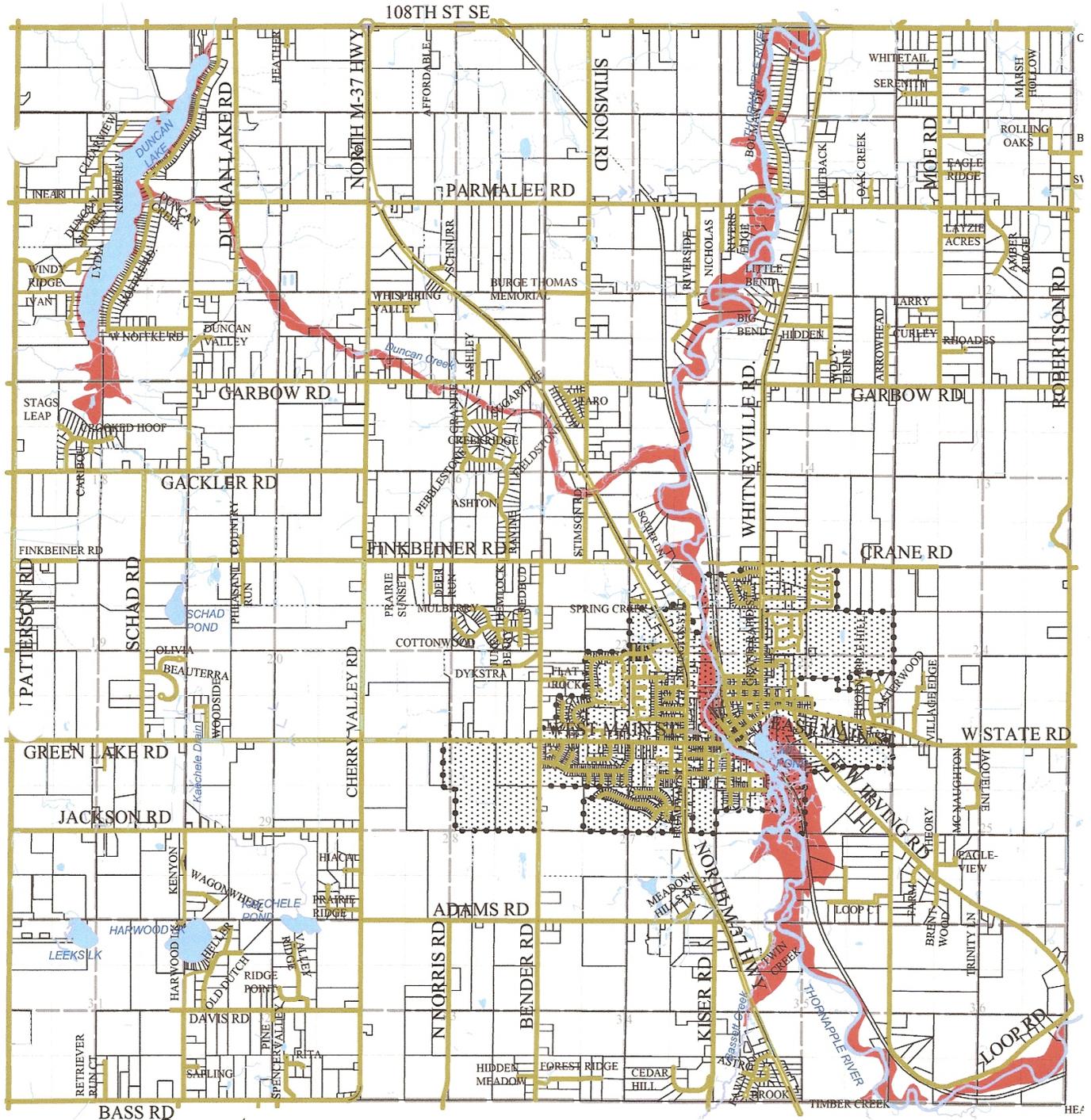
Michigan Department of Environmental Quality on behalf of the U.S. Corps of Engineers are typically for “cut and fill”, meaning excavation or fill activities. Michigan Department of Environmental Quality does not permit fill in a flood plain which reduces the volume of or cross-section of a floodway. Compensating cut and fill may be permitted. Permits will not be issued if the area contains unique habitat or threatened species of wildlife or fauna.

Fringe areas along a flood plain should also be protected. Often, a strip of 50-100 feet is required to be left undisturbed with native vegetation. Flood plain regulations within the local zoning ordinance should provide for (1) minimum building and structure setbacks of 100 feet from the edge of a flood plain, (2) maintenance of a native vegetation strip within the required setback area and (3) limitations on clearing of native trees within the setback area.

Public access to view waterfront and flood water areas should be allowed. Carefully located boardwalks and pathways along the Thornapple River can create opportunity for passive enjoyment of this resource.

#### **Wetlands**

Wetland areas are low-lying lands adjacent to surface waters subject to seasonal inundation by water. Often, these upland wetlands are spring-fed with either limited or no outlet for surface water.



**THORNAPPLE TOWNSHIP**  
BARRY COUNTY

*Map 5-1*  
*Areas within 100 year floodplain*



Legend:

100 year floodplain



SCALE 1" = 4000 FT  
BARRY COUNTY LAND  
INFORMATION SERVICE  
SEPTEMBER 2006

SOURCE: FEDERAL EMERGENCY  
MANAGEMENT AGENCY

particularly sensitive to man-made development, since the water source is limited. Man-made surface drainage ditches and structures flowing into an upland-wetland directly impact water quality. Moreover, water wells and septic tank/drain fields placed in and above the ground water source also impact quantity and quality of groundwater.

Because of their unique characteristics and limited land areas, wetlands should be aggressively protected by local regulations. Michigan Department of Environmental Quality issues wetland permits for regulated areas of five contiguous acres or more. The Village's regulated wetland areas are depicted on **Map 5-2**.

A very unique type of wetland exists at the north end of Spring Park. It includes the head waters of Spring Creek. In general, this type of wetland is quite rare, being in character with a prairie fen-like sedge meadow. On June 29, 2001, Botanist Ellen Ellerbee conducted a survey of this prairie fen-like sedge meadow. Her conclusion is summarized as follows:

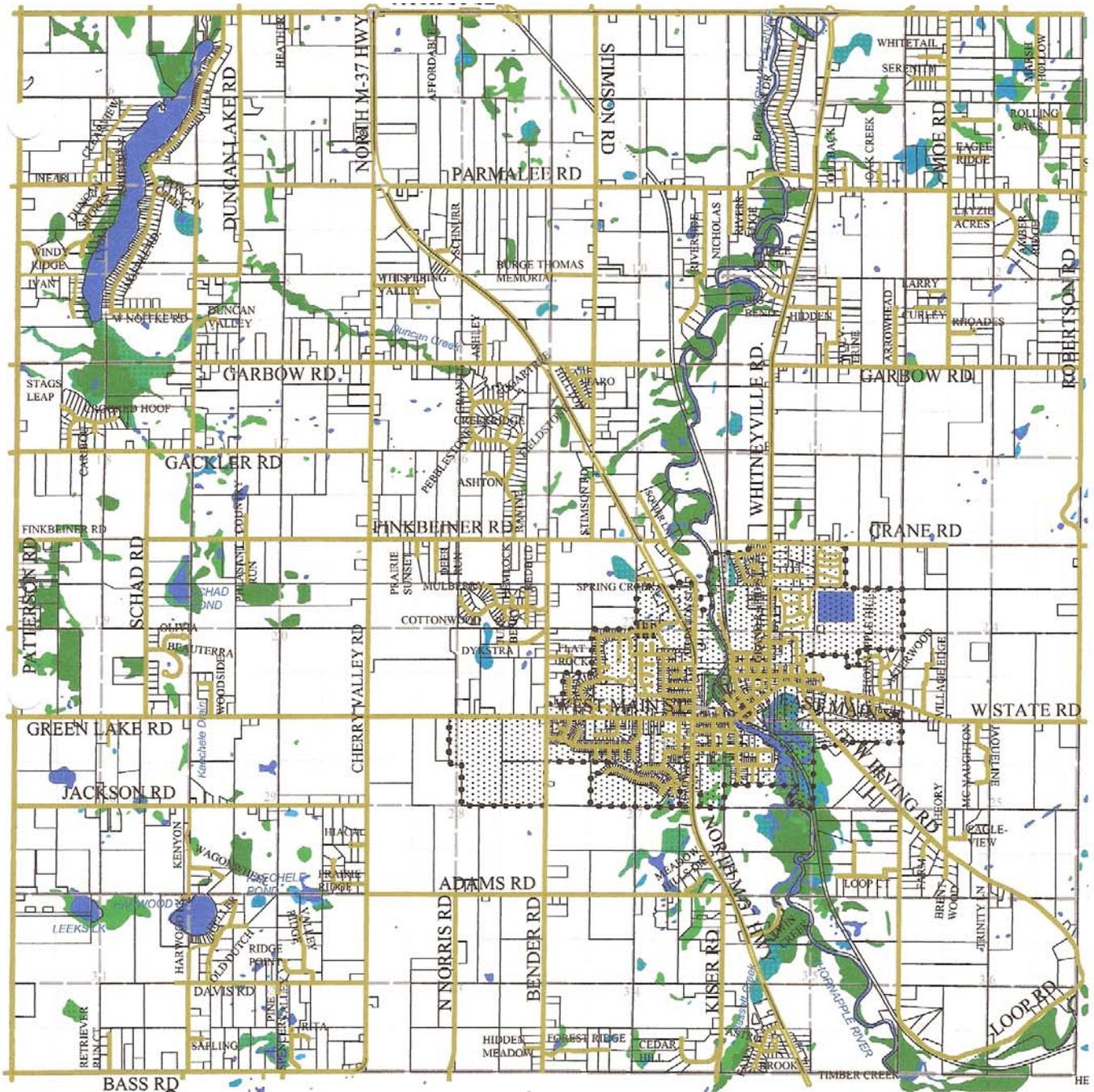
*"The Middleville Fen is of high quality and is in remarkably good shape, especially considering that it is almost totally surrounded by development. The Floristic Quality Index is very high – an FQI rating of 38.93. That is an impressive score indeed and will improve even more with additional species which will be found on future surveys. To put the FQI rating of 38.93 into perspective: according to the Floristic Quality Assessment, "Areas with a FQI higher than 35 possesses*

*sufficient conservatism and richness that they are floristically important from a statewide perspective."*

Dr. Ellerbee points out this prairie fen sedge meadow is in need of some protection and management of efforts to preserve its floristic importance. These efforts should include (1) remove (or reduce) invasive species (loosestrife, honeysuckle, watercress) which are mostly concentrated near the boardwalk and along the creek, (2) thin (or burn) some of the scrub-shrub areas which will eventually shade out the herbaceous layer, (3) buy any available adjacent property to act as a buffer, (4) encourage owners of neighboring properties to put conservation easements on areas adjacent to the fen, to prohibit any further development, and (5) monitor neighborhood encroachment, nearby gas station storm water run-off, and any expansion of the developed portion of the park.

Wetland area management and protection measures can be included in the local zoning ordinance. Such management could include:

- Maintaining a 100 foot building and structure setback from the edge of wetland.
- Maintaining a 50 foot natural vegetation setup from the edge of wetland.
- Limit amount of tree-clearing within 100 feet of the edge of wetland.



**THORNAPPLE TOWNSHIP**  
BARRY COUNTY

*Map 5-2*  
*National Wetlands Inventory*



- Legend:**
- Forested Wetland
  - Shrub Scrub Wetland
  - Emergent Wetland
  - Aquatic Bed Wetland
  - Open Water
  - Unconsolidated Shoreline



SCALE 1" = 4000FT  
BARRY COUNTY LAND  
SEPTEMBER 2006

SOURCE: UNITED STATES  
DEPARTMENT OF FISH &  
WILDLIFE CIRCA 1983

- Prohibit earth change, top soil stripping or fill within the wetland.
- Prohibit direct discharge of storm water into a wetland. Require “bio-detection” of storm water and discharge via surface swale.
- Require plantings of native grasses and low-lying scrubs on exposed land within a 100 foot strip along the edge of wetland.
- Public acquisition of wetlands.

### Landforms (Contours)

One aspect of the natural environment having significant influence on community character is changes in elevation or relief. The Village of Middleville includes areas with significant relief. Glaciers and the Thornapple River have combined to create the existing changes in elevation.

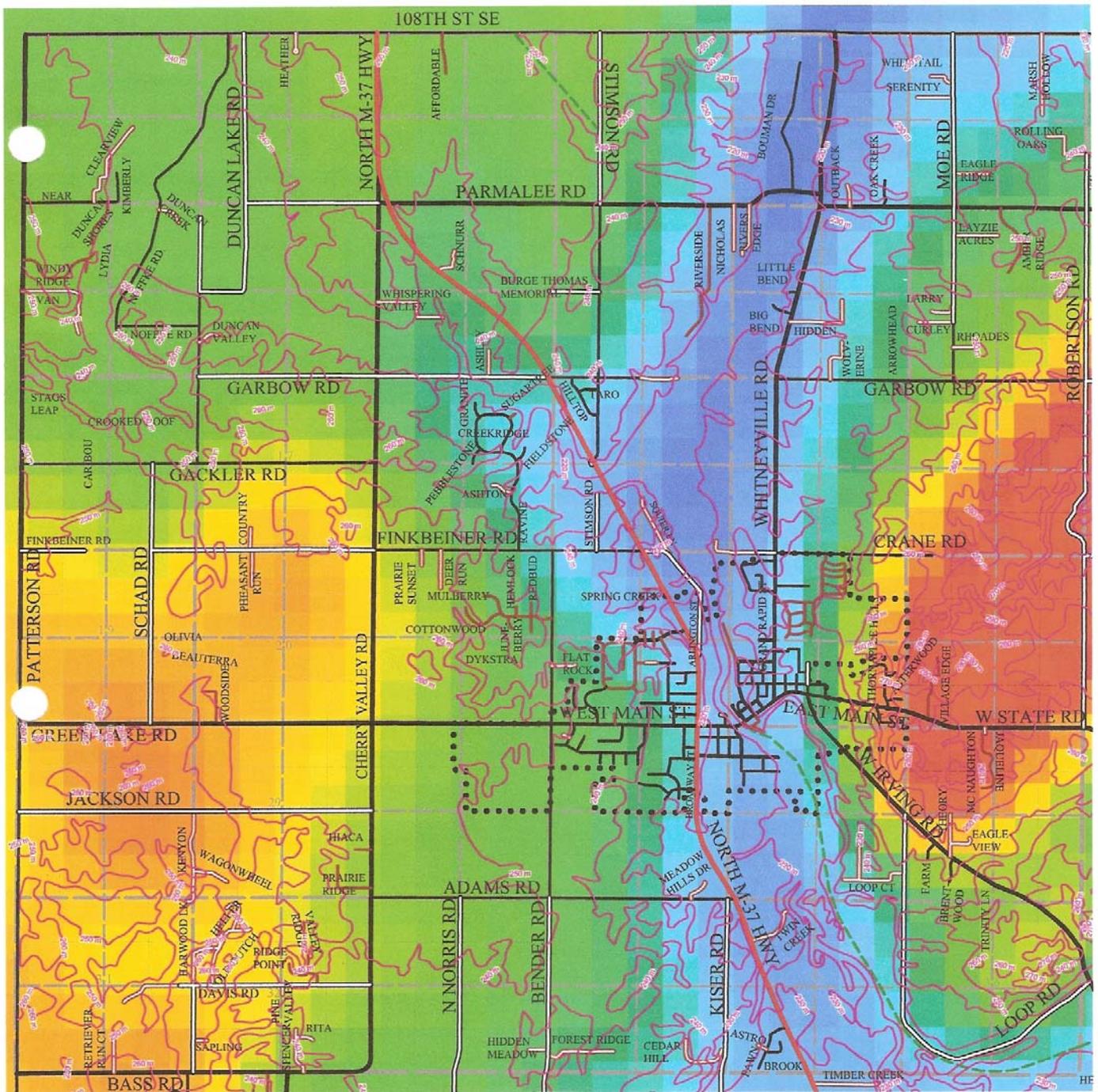
Lowest elevations within the Village occur on the Thornapple River where just above the dam normal water elevation is 712 feet above sea level and just below the dam 705 feet. The highest elevation in the Village at 990 feet occurs just east of the Wastewater Treatment Plant. Another prominent feature is “Esker Hill” in the southeast quadrant of the Village having an elevation of 968 feet above sea level. West of the Thornapple River, landforms are more gently rolling with high elevations at the west end of the Misty Ridge development of 807 feet and north of West Main Street just east of Bender Road at 829 feet above sea level.

The importance of hills and ridgelines is the views they afford. Esker Hill is a dominant land form, visible from the Village Center and from “Scales Prairie”. The ridge is covered with native woodlands. If areas such as Esker Hill are developed, it should be done with the objective of view protection. Too many communities have allowed significant views to be despoiled with too numerous buildings and too few trees.

Effective new protection involves several elements, these are (1) preservation of native trees, (2) placement of buildings below the top ridgeline or use of variable roof lines, (3) avoidance of large buildings or massive groupings and (4) use of architecture style and building colors which blend with the surrounding natural environment. **Map 5-3** provides generalized land contours within the Village.

### Soils

An important influence soils have on development is the slope of the land itself. The more steeply sloped an area is, the more susceptible it will be to erosion if surface soils are disturbed. Installation of roads and driveways in steeply sloped areas can require extensive soil cut and fill and result in road grades which are very steep. Erosion control is very difficult as well. Steeply sloped areas are environmentally sensitive and any development on them needs to be closely monitored to assure that environmental degradation does not occur.



**THORNAPPLE TOWNSHIP**  
BARRY COUNTY

*Map 5-3*  
*Landforms*

*Metric elevation with*  
*10 meter contour lines*



SCALE 1" = 4000 FT  
BARRY COUNTY LAND  
INFORMATION SERVICE  
SEPTEMBER 2006

SOURCE: UNITED STATES  
GEOLOGICAL SURVEY

## Mineral Resources

Landforms in the Middleville/Thornapple area contain extensive deposits of sand and gravel minerals. Many of these glacial deposits represent high quality resource.

**Map 5-4** presents generalized spatial data regarding soil classifications at a depth of five (5) feet. As can be observed on this map, gravel and sand deposits occur throughout the Joint Planning Area, the northeast and southwest areas of the Township.

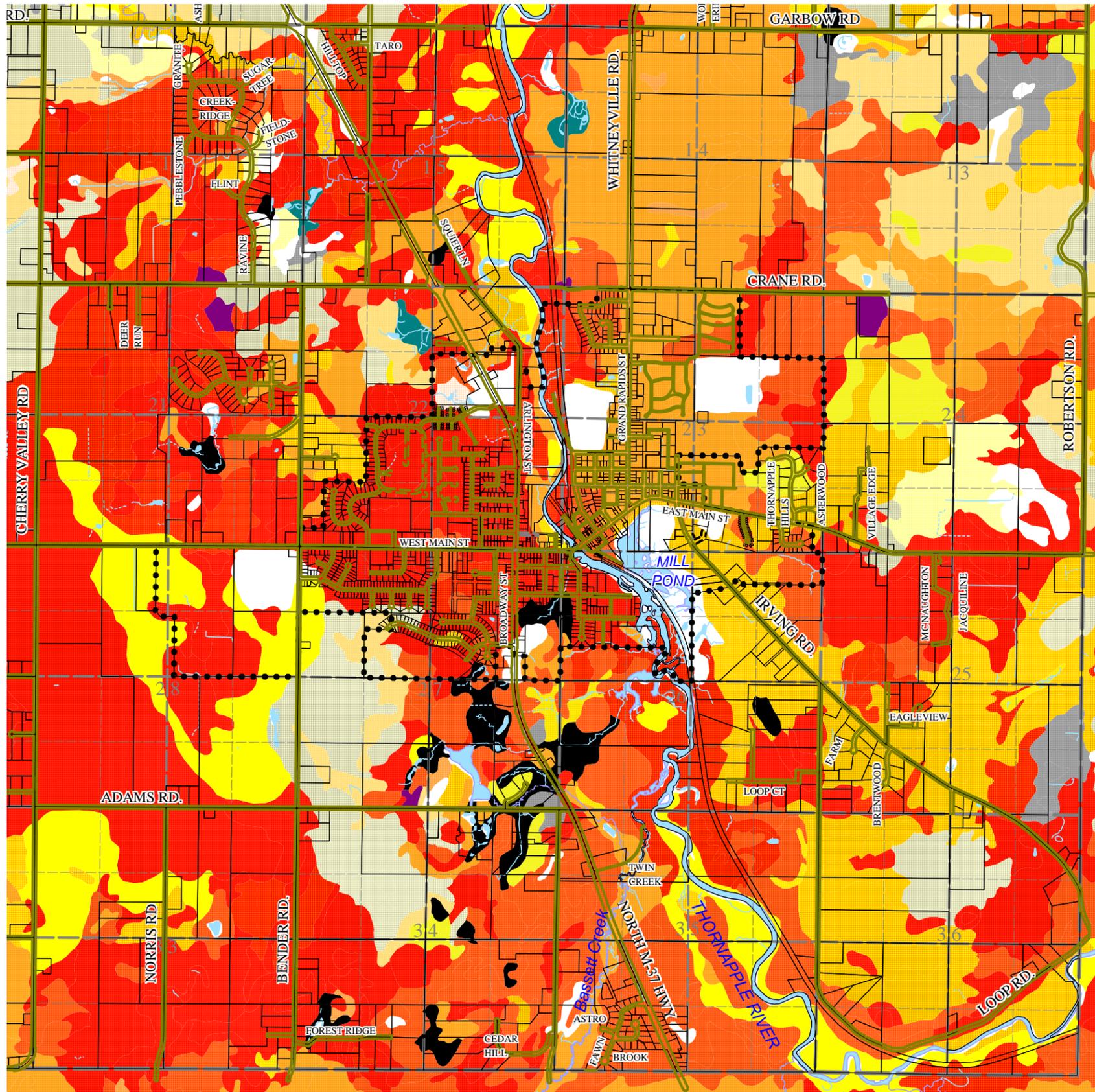
Currently, there are five (5) active sand and gravel mines in the Township within Sections 25, 30, 31, and 34-36. These operations tend to be large impact land uses. Equipment noises, truck movements and blowing sands represent nuisance factors relating to this use. Management issues attendant to this land use include bottom elevation of excavation to assure sufficient "free board" between groundwater and finished grades, methods of processing on site, quantity of stone to be crushed, sand and sediment on paved roadways, wear and tear to public roads, design for ultimate site reclamation and site reuse. When in close proximity to homes, operating hours also need to be addressed.

Whenever a mineral extraction use is proposed or an existing mine proposed to be increased in area, all lands nearby are immediately impacted. Such use, due to its high nuisance value, create negative conditions that tend to forestall new development nearby. As such, siting issues including location of access, relative grades and sign lines, buffer

zones and quantity of resources become significant matters to be addressed during the review process.

Mines on sites with large reserves of sand and gravel will likely be active over a period of decades rather than years. All decisions regarding mineral extraction use should be supported by careful and thorough analysis, findings of fact as well as clear, precisely written conditions governing operation of the mining activity.

Mineral extraction uses proposed within 1,000 – 2,000 feet of an established residential area should not be approved if truck hauling operations pass by homes. Moreover, any operation should be required to have direct access to a class A, all-weather road. Where the site does not directly access an all-weather road, intermediate roadways should be brought to class A standards by the mine operator before commencement of the mining activity.



# VILLAGE OF MIDDLEVILLE



BARRY COUNTY,  
MICHIGAN

*MAP 5-4*

*AASHTO SOIL CLASSIFICATION  
AT 5 FT DEPTH*

*Legend:*

- Gravel
- Coarse Sand
- Fine Sand
- Loam
- Clay
- Clay with Histosols
- Peat
- Marl
- Unclassified - Histosols & Aqents
- Sand & Gravel Mining



SCALE 1" = 2400FT  
BARRY COUNTY LAND  
INFORMATION SERVICE  
MAY 2007

SOURCE: UNITED STATE DEPARTMENT OF FISH & WILDLIFE 1990  
AASHTO: AMERICAN ASSOCIATION OF STATE HIGHWAY & TRANSPORTATION OFFICIALS

## **Chapter Six**

### **EXISTING LAND USE**



**Map 6-1** depicts existing land use by type within the Village of Middleville. The information in this chapter is based on a complete field of inventory of land use conducted during September and October of 2001, updated in November of 2005.

The pattern and types of existing land use significantly influences planning for future land uses. To plan future uses which are clearly incompatible with established use of land is both unfair and improper. Current owners and occupiers of land have an expectation the Village will protect them from intrusive, nuisance uses and maintain their quiet enjoyment of their premises.

#### **2001-2005 Existing Land Use – Methodology**

Existing land use was surveyed for each parcel within the Village. The Village contains 1,465 total acres (2.28 square miles) of land. Land use was inventoried in 13 categories including:

(1) Agricultural, (2) One-family, (3) two-family, (4) multiple family, (5) office, (6) commercial, (7) special use, (8) industrial, (9) institutional, (10) school, (11) cemetery, (12) public use or ownership, and (13) vacant land.

#### **EXISTING LAND USE DEFINITIONS**

**Agriculture** Active agriculture includes intensive animal production, grazing pasture lands, cash crop production (corn, beans, wheat, etc.) and specialty agriculture such as sod, onions, vegetable production and wood lots of more than five acres. Fallow lands observed were noted as vacant.

**Single-Family Residential** This category includes all one-family occupied dwellings located in recorded subdivisions, site condominium subdivisions, lots divided under the Land Division Act upon large acreage parcels. For parcels with an area over three acres, each was evaluated to determine





if future land division could be made. If the parcel could not be further divided in a lawful manner, the entire parcel was included as a one-family tract.

If the parcel could be lawfully divided, an area of .5 acre was assigned to the home and the remaining land assigned to a vacant or agriculture use category.

**Two-Family Residential** A parcel on which a building, including two separate dwelling units, is located.

**Multiple-Family Residential** a parcel on which a building, including three or more separate dwelling units is located.

**Office** Property occupied by any type of office building/use.

**Commercial** Included in this category are lands occupied by retail, other mercantile and commercial service establishments.

### **Special Use**

**Industrial** A parcel of land on which assembly, fabrication, manufacturing, and any use which affects physical or chemical change to any material or product is located.

**Institutional** Includes land on which religious institutions, utilities and all forms of communications services are present.

**Schools** Includes land occupied by public or private K-12 education, colleges, or trade schools.

**Cemetery** Existing public or private burial cemeteries, mausoleums or crematoriums.

**Public Use/Ownership** Vacant land or occupied land or buildings under government ownership, including park lands. Also includes land owned by a non-profit institution available for public use.

**Vacant Land** Land-area not in active use, which has no buildings.

## EXISTING LAND USE 2005

**Table 6-1** represents total acreage in use with the Village by land use category, based on the physical inventory of land use.

**Table 6-1**  
**Existing Land Use 2005**  
**Village of Middleville**

Category	Total Acres	Percent of Total
Agricultural	0	0
Residential <sup>1</sup>	634.5	43.5
Commercial	42.0	2.9
Industrial	105.0	7.1
Institutional	4.5	.3
Vacant	154.0	10.5
Water	30.0	2.0
Public R.O.W.	111.0	7.5
Public Use/ Ownership	384.0	26.2
Special Use		0
<b>TOTAL</b>	1,465 <sup>2</sup>	100%

## Land Use Trends

The 1989 Master Plan for the Village of Middleville did not provide acreage in use by land use type. A generalized existing land use map was included in the Plan but the data sets were insufficient to make direct comparisons with 2005 data.

In order to make valid comparison of historical data with that obtained in 2005, historic data was converted to acreage based on actual total land area in the Village. Total acreage in 1989 was 914 acres or 1.43 square miles. The higher 2005 total acreage in the Village reflects land area added to the Village of Middleville and removed from the Township via annexations. **Table 6-2** presents the results of this work.

<sup>1</sup> Single-family, 2-family and multiple-family combined

<sup>2</sup> Excludes Thornapple Township area of 33.92 sq. miles

**Table 6-2**  
**Land Use Trends 1989 – 2005**  
**Village of Middleville**  
**Acreage**

<b>Category</b>	<b>Acres – 1989</b>	<b>Acres-2005</b>	<b>Change 1989-2005</b>
Agricultural	-	-	-
Residential	187	634.6	447.5
Commercial	30	42	12.0
Industrial	65	105	40.0
Institutional	19	4.5	(14.5)
Vacant	180	154	(26.0)
Water	30	30	0
Public R.O.W.	88	111	23
Public Use/Ownership	315	384	69
<b>TOTAL</b>	<b>914</b>	<b>1,465</b>	<b>551</b>

The most significant change in land use since 1989 has been a 447.5 acre increase in land area devoted to residential use. On average, during the period of 1989-2005, an additional 26.3 acres of land were converted from vacant to single-family residential use each year.

The total land in the Village of Middleville increased from 914 acres in 1989 to 1,465 acres in 2005. Annexation of land into the Village accounts for this change. A vast percentage of annexed lands are being developed as residential subdivisions.

**Table 6-2** depicts a sizeable increase in residential land when comparing 1989 data with 2005 data. The 2005 data is based on field observation of existing land use and was mapped for each parcel of land in the Village. The 2005 data is very exact and detailed, and should be considered representative of actual use of land within the Village.

A total of 384 acres of land are in public use and/or ownership. Public road rights-of-way comprise 111 acres of land. Surface waters contain 30 acres, excluding small streams.

# VILLAGE OF MIDDLEVILLE

BARRY COUNTY



**Map 6-1**

*Existing Land Use*

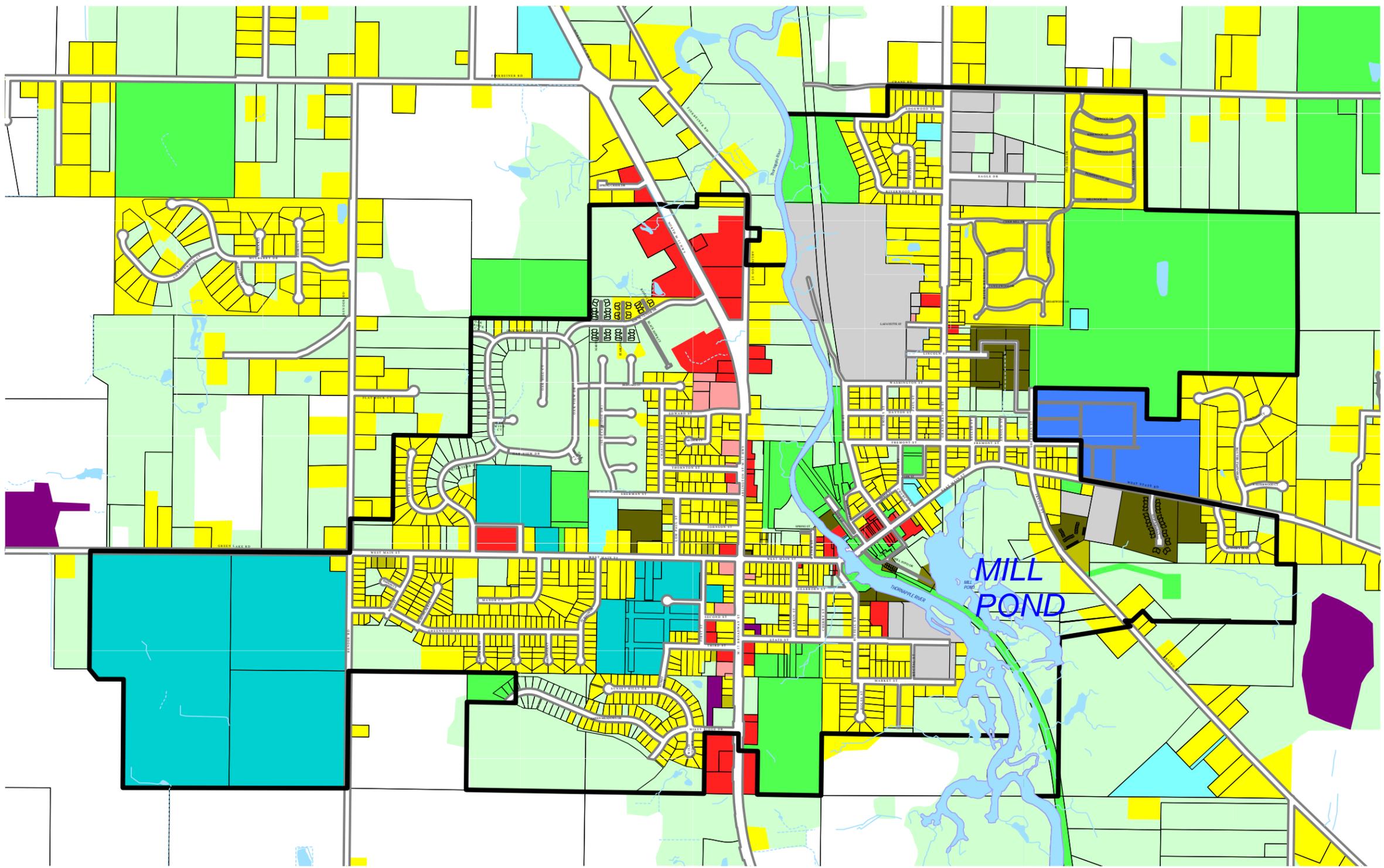
-  1 - Agriculture
-  2 - One Family
-  3 - Two Family
-  4 - Multiple Family
-  5 - Office
-  6 - Commercial
-  7 - Special Use
-  8 - Industrial
-  9 - Institutional (Church, utility, communications)
-  10 - School
-  11 - Cemetery
-  12 - Public Use / Ownership
-  13 - Vacant Land



SCALE 1:1200

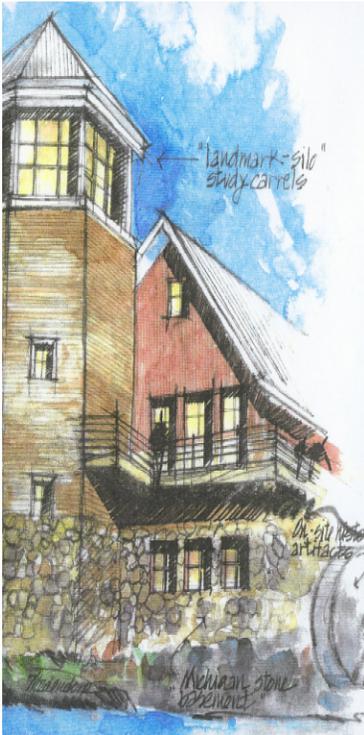
BARRY COUNTY LAND  
INFORMATION SERVICE  
MAY 2007

SOURCE: VILLAGE OF MIDDLEVILLE 2006



## **Chapter 7**

# **Community Facilities Inventory**



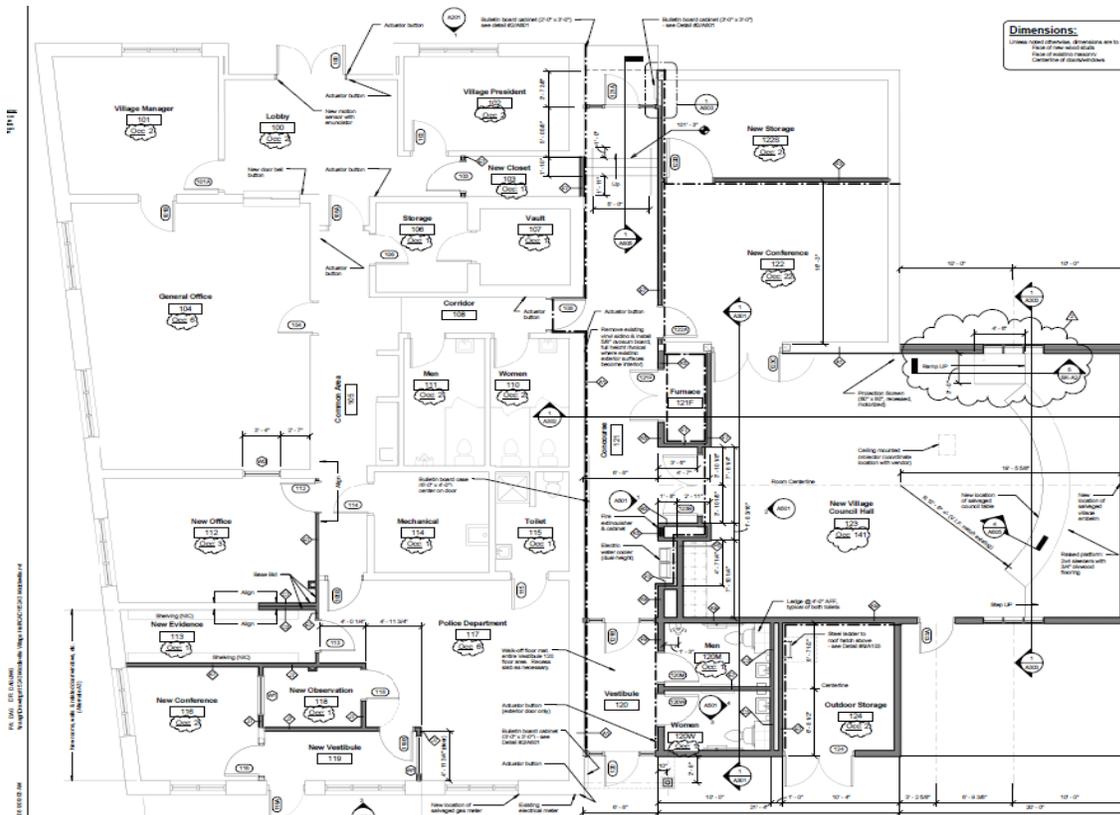
The Village of Middleville and Thornapple Township share numerous public community facilities. For purposes of this Chapter, both Village and Township facilities are discussed. Addressed in this Chapter are (1) local government buildings and grounds, (2) vacant lands owned by local government, (3) land owned by County or State governments, (4) cemetery properties, and (5) public library.

Not addressed in this chapter are public utilities [see Chapters 10 and 11], storm drainage [see Chapter 12], public streets [see Chapter 14], and parkland and pedestrian facilities [see Chapter 13].

### **Village of Middleville Buildings and Lands**

The Village owns and operates four public buildings, including Village Hall, the Department of Public Works Garage, the former fire station and the Wastewater Treatment Plant Facility. The Waste Water Treatment Facility is discussed further in Chapter 10.

**1. Village Hall** Located at 100 East Main Street, this building houses administrative offices of the Village and the Middleville Unit of the Barry County Sheriff's Department. This building contained the original offices of the White Water Heater Company and the footprint remains essentially the same. In 2008, the building was renovated to add a conference room, Council Chambers, and public restroom facilities. Currently, Village administrative staff and the Sheriff department occupy the space. About 1/3 of the building accommodates Sheriff Deputies squad room and Command Sergeants office. **Figure 7-1** provides an illustration of the Village Hall floor plan and space use.



**Middleville Village Hall in 2012. This building was remodeled in 2008.**



**Figure 7-1 Village Hall Floor Plan and Space Utilization**

All floor space within Village Hall is currently occupied. File and public records storage space is extremely limited. As the Village continues to grow, space needs at Village Hall will become more critical.

The Village should address long term municipal space needs and evaluate whether to increase floor area at the current site [*second floor or lateral expansion*] or look at a new site.

Part of the evaluation should include possible consolidation of local government services in a single building in partnership with Thornapple Township. This could result in some staffing, equipment and operating efficiencies, therefore overall cost savings. Such an approach might also create “one-stop” convenience for residents and taxpayers. If this approach were seriously considered, the existing building could be sold for office or other use and proceeds applied to the pro rata cost of a new municipal building.



**2. “Old Fire Station” Building**

Acquired from Thornapple Township during 2005, this Village facility is currently used for indoor parking of police cars, storage of confiscated property, storage of the Village Stagecoach during winter months as well as storage of miscellaneous materials used by the Department of Public Works. In 2003-4, an estimated 10-11,000 historic paver bricks were stored on pallets in the building. It is intended the bricks will be used adjacent to the Michigan Central Railroad Depot and in redevelopment areas. The former fire/EMS personnel living quarters are now vacant.

The new Thornapple Township Emergency Services building replaced this facility in late 2004. Future use of the property on which this building is situated is unknown.

**3. Department of Public Works (DPW) Maintenance Garage**



**This access drive is shared with the WWTP and is paved. The paved area east of the building includes a salt storage shed.**

This facility was completed in 2002, replacing the former Village garage located on the site of Mill Pond Condominiums, adjacent to old Downtown. The former DPW Garage was demolished to make way for residential use.

The Village-owned site on which this building is located is shared with the Wastewater Treatment Plan [WWTP]. The site has ample area for future expansion of the building. The building was designed to expand on the south end, adding more equipment bays or storage as such needs arise.

In addition to the public buildings discussed above, the Village owns several parcels of vacant land. These are discussed on the following pages.

**Figure 7-2 Wildwood Trails Park**



**4. Wildwood Trails Park**

This land was acquired by the Village during 2005 as an exchange for 20 acres of Village owned land in the NW1/4 of Section 23, at the east end of Crane Road.

The 20-acre parcel is adjacent to Rolling Oaks Subdivision, now under development. Site access from Oak Meadows Drive has been designed into Phase 2 of the subdivision.

This property is ideally suited for parkland. It is well located to new residential development areas and contains rolling terrain and woodland.

In 2011, a community contest was conducted to name the property. Wildwood Trails Park was selected. As parkland, this site can accommodate both active and passive recreation pursuits. The natural environment of the property lends well to nature study, walking trails, disc golf and picnicking. Opportunities for a pavilion and restrooms also exist.

**Figure 7-3 In-Fill Parcel “A” in Old Downtown adjacent to Village Hall**



**5. “In-Fill” Parcels within Downtown**

The Village owns two vacant parcels of land on Main Street within Downtown. The largest parcel is adjacent to Village Hall. This parcel has 129.68 feet of frontage along Main Street and 80.98 feet of depth. Part or all of the property is available for private redevelopment of a “storefront” type building incorporating period architecture. Design guidelines adopted by the Village Downtown Development Authority (DDA) call for a two-story building with retail or business use on the street level and residential or office use for the second level. This site is served by a 72-space municipal parking lot as well as street parking along Main Street.

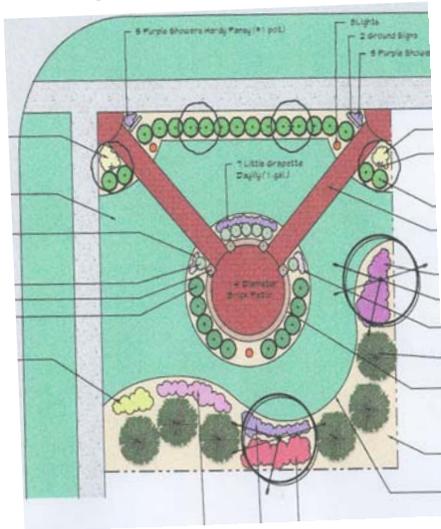
**Figure 7-4**  
In-fill Parcel “B” north side  
of E. Main Street



The second Village-owned infill parcel is located on the north side of E. Main Street. This parcel has about 60 feet of frontage on E. Main Street and 95 feet of depth. The DDA design guidelines call for a 2-story period style building with the same occupancy as parcel “A”. For each of these parcels, the DDA will offer a cost subsidy of up to \$10,000 per façade if period architecture is incorporated with a new structure.

**6. Larkin/W. Main St. Parcel**

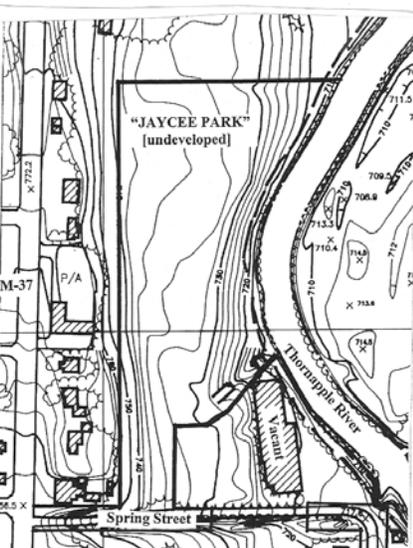
**Figure 7-5**  
W. Main Street Pocket Park  
Conception Plan



In 2005, the Village acquired this former gas station/auto service garage after conducting environmental due diligence. The building was demolished during 2006, thus removing an unsightly condition. The intent for this parcel is to create a nicely landscaped “pocket park” that enhances the visual appearance of the corner at W. Main Street and Larkin Street. **Figure 7-5** for the conceptual plan for the corner.

**7. Riverfront Vacant Land**

**Figure 7-6**  
Jaycee Park [Undeveloped]



The Village of Middleville owns approximately 7 acres of vacant land on the west side of the Thornapple River [Figure 7-6]. This property has an estimated 650 feet of frontage on the river. Extensive groundwater spring activity has been observed in this parcel that also contains significant upland wetland area. The array of flora and fauna is high quality. The former Village water works offers an interesting historical artifact and, with careful attention to detail, opportunity to create a viewing waterfall. The volume of spring water flowing through remnants of the water works remains largely unchanged throughout the year.

This property lends itself well to a public river walk, though the design will require careful attention to detail with regard to springs and the natural environment. The river walk and water fall at the water works could combine for unparalleled aesthetic enjoyment.

Potentially, portions of the site could be combined with adjacent properties permitting modes of high density residential use adjacent to this abundant natural environment. Such a private development could use open spaces as density credit. In exchange, the private developer would contribute to the cost of the river walk.

### **8. Eastbank Riverfront Development**

The Village Downtown Development Authority has approved a new concept drawing for the East Bank/Railroad Depot area [Figure 7-7]. This is an exciting new redevelopment project that when completed will create a community gathering place like no other! Adding to the beautiful new Rotary clock and Lions Sesquicentennial Park, this design includes a new community pavilion, new trail extension and riverwalk, improved canoe/kayak/boat launch, additional parking, green space, and restrooms and gathering place at the Depot. So far the plan has been positively received in the community and the Village anticipates applying for a MDNR grant in 2012 for Phase I that includes the pavilion, trailway, boardwalk, and improved river access.

Figure 7-7 Eastbank Riverfront Development



### Thornapple Township Buildings and Land

The Township owns and operates two public buildings, two cemeteries and a tract of land in the Village along the Thornapple River. The Township also owns and operates the Duncan Lake Wastewater Treatment Lagoon, fully discussed in Chapter 12.

1. **Township Hall** Located at 200 E. Main Street, this building was purchased by the Township in 1991 and completely renovated for office use. The building was previously a grocery store. **Figure 7-8** provides a building floor plan and breakdown of current space use.

Township Population has increased significantly during the 2000-2005 period. Attendant to this population increase are increasing service demands placed on Township administrative functions.

All space in the building is occupied. The floor area of the basement, now used exclusively for storage, can not be used for office occupancy due to the low ceiling height, lack of egress windows, and accessibility issues. Absent major and costly construction modifications, the basement can not be considered a viable option for additional office space.

In addressing long-term space needs, the Township has several options including:

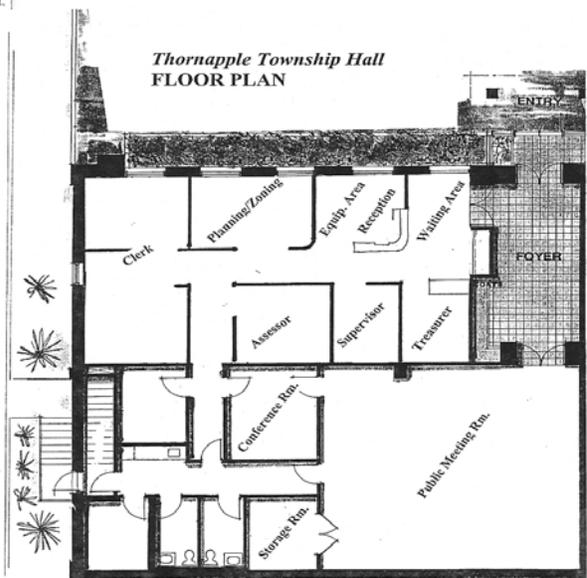
- (1) acquire land adjacent to the existing building and expand horizontally,
- (2) add a second story to the existing building
- (3) acquire a site for a new building and sell the existing building or
- (4) consider a new building in combination with the Village government. As stated earlier in this chapter, option #4 creates a convenient “one-stop” venue for all residents and

Figure 7-7



Township Hall SPACE USE 2006	
Function	Square Feet in Use [sf]
Entry Hall	90
Foyer	288
Waiting Area	104
Reception	99
Office Equip. Area	88
Planning/Zoning	180
Clerk	293
Assessor	126
Supervisor	114
Treasurer	114
Office Supplies Rm.	99
Conference Rm.	156
Storage Rm.	103
Vault	82
Public Meeting Rm.	952
Restrooms	118
Kitchenette	19
Hallways	182
Stairwell	53
Basement [storage only]	
<b>Total Floor Area</b>	<b>3,260 square feet</b>

Figure 7-8



results in savings from services consolidation. The existing building could be sold with the proceeds from the sale applied to the cost of the new facility. In the future, the Board of Trustees should consider commissioning a space needs study. Such a study would document future space needs and would provide comparative cost estimates for options 1-4 reviewed above.

### **2. Thornapple Township's Emergency Services Building**

This modern structure was built during 2004 and houses the fire and ambulance personnel and equipment. Offices, conference room and training rooms are located on the upper level and are accessed from the High Street parking facility. The lower level contains the equipment garage [5 double bays], as well as kitchen, showers, decontamination room, laundry, exercise room, sleeping quarters, and mechanical room.

This facility services all of the Village, Thornapple Township, the west one-third of Irving Township and all of Yankee Springs Township. [Yankee Springs has an auxiliary fire station].

Even with significant growth occurring and projected to occur in the service area, this emergency services building should afford excellent accommodation of equipment and personnel throughout the planning period.

The Township also owns one acre of land at the east end of Crane Road in Section 24. This parcel is used by the Fire service for so-called "flash-over" training for firefighters. Two large metal structures on site offer intense, contained fires into which fire fighters enter for their first hand experience about the dangerous fire "flash-over". This training gives fire fighters experience in identifying and dealing with flash-overs. Many other fire departments have used this facility



***New Emergency Services Building built in 2004***

**3. Township Cemeteries** The two Township cemeteries are Mt. Hope and Parmalee.



**Mt. Hope Cemetery**

Mt. Hope Cemetery has significant vacant land area and unused plot areas. Based on demand estimates of over 15 plots per year and the ever increasing use of cremating, Mt. Hope Cemetery will meet local needs for several decades.



**Parmalee Cemetery**

Parmalee Cemetery has no available plots and is strictly a maintenance facility.

**The Scenic River and Township-Owned Shoreline**



**4. Vacant Riverfront Land** The land purchased for the new Thornapple Township Emergency Services building included about 9 acres that were not used. This vacant land has some 1,300 feet of shoreline along the Thornapple River. Much of the vacant land is in the 100-year floodplain or wetland. However, the land is wooded and extremely valuable for public walking trails, river access and passive enjoyment. The future of this vacant land requires a detailed plan and then implementation to assure long-term public use and enjoyment.

**5. Barry County Land** The only County-owned land in the Village or Thornapple Township is that owned and operated by the Barry County Road Commission [BCRC]. Specifically, the BCRC operates a sand and gravel borrow pit on 40 acres of land on the south side of Finkbeiner Road in the NE ¼ of Section 21. Given the large land area, this land use may be active through the planning period. The Township should encourage the BCRC to engage progressive site reclamation so the property can be put to a viable end use.

**6. Public Library** The public library serving the Village of Middleville and Thornapple Township is located within the High School building, owned and operated by the Thornapple-Kellogg Public School District.



**Chapter 8**

**A VISION FOR MIDDLEVILLE**

**Planning Goals and Policies**

**Introduction**

**Farmland**

**Natural Environment**

**Recreation Lands/Open Spaces/Trails**

**Economic Base**

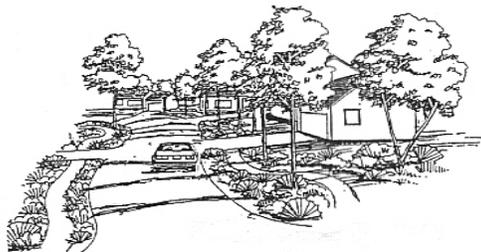
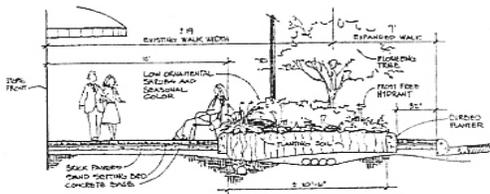
**Land Use**

**Community Facilities**

**Sanitary Sewer and Water Supply**

**Transportation**

**Character, Aesthetics and Design  
Managing Change**



**INTRODUCTION**

Prior to creating an update of the 1989 plan for future land use, parameters for current planning require definition. Planning goals are general, across the board statements concerning the future. They create the future vision of Middleville. Development policies present the ways and approaches for management of future change. Policies may address programming, geographic areas, public investment and community design.

The Village of Middleville has experienced significant population growth, expansion and physical development since adoption of the 1989 Master Plan. Factors such as ever increasing traffic volumes on the road network, new subdivision and commercial development as well as conversion of farm and fallow lands to large lot residential use are changing the character of Village and area. New residents are seeking a “small town character” environment in which to live. This obvious trend creates a dichotomy. On the one hand, people want small town and rural amenities. On the other hand, these people build new houses and accessory buildings on previously undeveloped lands, thereby changing forever the small town character.

The Village Planning Commission recognizes the high order responsibility it has to plan for and manage change consistent with desires of residents expressed in 1996, 2001 and 2004 opinion surveys and also conforming to sound planning principals and requirements of Michigan law and the Constitution of the United States.

The goals and policy statements offered in this chapter afford guidance for today's decision-makers and for the future. Of paramount concern for each decision, "does the development, as presented, conform to established goals and policies for the Village and Joint Planning Area?" The Planning Commission hereby establishes the following goals and policies:



#### **FARMLAND - GOAL**

Beyond Village limits, large and significant areas of prime farmland exist. These lands should be reserved for continuing agricultural use during the 2007 – 2020 planning period.

#### **Farmland Policies**

- (1) Consistent with law and zoning standards employed by the Township, the Village Planning Commission will support the Township's efforts to limit non-agricultural use of prime farmland.
- (2) Farmland retention incentive programs, such as use of PA 116 of 1974, as amended, should be actively encouraged.
- (3) Purchase of farmland development rights (PDR) programs via Barry County will be encouraged. However, farmlands planned for alternate land use that are within the Joint Planning Area should not be included in the PDR program.
- (4) To the extent allowed by law, the Village, in collaboration with Thornapple Township, will evaluate use of Transfer of Development Rights (TDR). This is a market-based program whereby part or all of development rights on prime farm land could be "sold" and applied on development property within the Joint Planning Area fully served with public infrastructure.

**NATURAL ENVIRONMENT – GOAL****Groundwater Quality Protection**

A central purpose of the Village plan is to protect and conserve the existing and abundant natural features and resources.

In collaboration with the Barry-Eaton Health Department, Thornapple Township and the Village will implement specific standards to protect and maintain groundwater quality. Specific topics, such as areas of elevated nitrates and arsenic, will be studied and collaborative measures implemented to protect groundwater quality and supply.

**Surface Water Quality.**

Management of soil erosion, point and non-point sources, elimination of improperly functioning private wastewater disposal systems and other measures intended to prevent degradation of surface water quality will be identified and implemented.

**Shore lands.**

Along the Thornapple River and tributaries, shore land disturbance will be discouraged. Removal of trees, natural shore land vegetation and soil disturbance diminishes wildlife habitats and prompts soil erosion into the surface water. The Thornapple River Watershed Council will be consulted for best management practices to implement for these areas.

**Wetlands and Floodways.**

Permanent and ephemeral wetlands should not be eliminated by earth fill. Defined 100 year flood plain areas shall not be diminished by volume. These areas provide unique natural settings for human enjoyment and habitat for mammals, amphibians and invertebrates. To the extent possible, wetland and floodway should be placed in public ownership or be preserved by use of conservation easements.

**Woodland.**

Clear cutting of established woodlots should be prohibited in favor of best woodlot management practices. Residential and other types of development that occur on wooded sites will be required to engage in minimal tree clearance to conserve woodlot amenities.

**Wildlife Habitat.**

The impact of proposed development on existing wildlife habitat should be evaluated when rendering decisions on development. Whenever a tract of land has documented habitat areas, the design and layout of any development on that tract should respect habitat areas and migration routes.

**View Sheds.**

The Village and environs have locations blessed with exceptional scenic views. Locations affording such views should be preserved from private development and placed in public ownership, thus preserving a high value aesthetic resource for future generations.



### RECREATION LANDS, PASSIVE OPEN SPACES AND TRAILS – GOAL

**Create a network of passive open spaces with trail links along the River and to active recreation facilities**

### Policies

- (1) The Village of Middleville, Thornapple Township and the Thornapple-Kellogg Public School District have collaborated to establish the Thornapple Area Parks and Recreation Commission, (TARPC). This organization should continue to spearhead youth and adult active recreation programs.
- (2) Areas containing significant natural features will be placed in public ownership or preserved by way of permanent conservation easements.
- (3) The Village, in collaboration with the Township, TAPRC and the Barry County Parks and Recreation Commission, should acquire strategically located sites for active recreation facilities within the next decade. As population growth and development occurs, acquiring such land will become increasingly more expensive and difficult. ***Acquisition of future recreation sites should be given a high priority.***
- (4) The existing Paul Henry Thornapple Trail should be extended northward from Main Street in the Village to the north boundary of Thornapple Township, along the route of the former Michigan Central Railroad. Added extensions southward should be implemented by Rutland Township, the City of Hastings and other local government entities. The newly constituted Barry County Parks and Recreation Commission should be an investor in trail improvement projects.
- (5) Trail and pedestrian links should be extended from the Paul Henry Thornapple Trail to residential developments in the Village of Middleville, Joint Planning Area and the Township, thus creating a useful network of pedestrian trails. As private development occurs, these links should be planned into such development.
- (6) Public park and conservation land along the Thornapple River linked to the Paul Henry Trail should be acquired and include boat and canoe access, family picnicking, nature study and wildlife protection areas.



### **ECONOMIC BASE – GOAL**

The Village, in collaboration with Thornapple Township, will vigorously pursue a diverse economic base and full employment.

### **Economic Base Policies**

- (1) Land for future industrial use will be identified within the Joint Planning Area to accommodate new industrial investment, provide local employment and a stable tax base.
- (2) The “old downtown” of the Village should be transformed into a multi-use, economic center for specialty retailers, finance, medical care and health, personal services, eating, local government services, culture and a community special events venue.
- (3) The Village and Township should continue collaboration and support for the Barry County Economic Alliance with emphasis given to growth of firms already doing business in the County.

**LAND USE – GOAL**

As physical change occurs, assure each new use of land is compatible with the neighborhood and does not over-burden community infrastructure.



**M-37 Frontage Lands.** The Planning Commission believes parcels fronting highway M-37 (Broadway/Arlington) should be given special planning treatment to assure long term traffic safety and land use compatibility. Detail design plans will be prepared for each segment of this roadway frontage.

**Residential Use.**

Residential development density should respect existing residential use density. Residential development in prime agricultural areas should be limited to those permitted by the Land Division Act (PA 591 of 1996, as amended). Cluster residential development served by public sewer water and water supply with open space will be encouraged to preserve community character and encourage walk able neighborhoods. It is agreed between the Village and Township, small lot and multiple family residential land uses will be planned within the Village and Joint Planning Area. Outlying areas within Thornapple Township will remain rural during the planning period.

**Commercial Use.**

Retail and service uses will be planned for areas now served or easily served by public sanitary sewer and water supply, primarily within the Village, with limited areas within the Joint Planning Area.

**Industrial Use.** Land for future industrial and heavy commercial land uses will be planned in location(s) served by public utilities, class A, all-weather roadways and high capability fire protection.

**COMMUNITY FACILITIES - GOAL**

As the community changes, community facilities will be improved to provide optimum service for all residents.

**Community Facility Policies**

**Public Safety.** Maintain and improve fire protection and life safety services at high service levels.

Consider enhancing services for law enforcement and crime prevention.

Assure all new development has adequate water supply for fire protection.

**Public Schools.** K-12 education facilities and programs in the Thornapple – Kellogg school district should be maintained to foster high academic achievement.

**Public Library.** Study options for a free-standing, multi-use public library/community center facility within or adjacent to old downtown Middleville.

**Public Administration.** As the Middleville/Thornapple community grows, service demands on local government administrative offices will increase. A consolidated Village/Township administrative facility may offer cost savings for delivery of local government services. This approach should be given study and consideration, perhaps via a citizen study group. If a cost efficiency results, the public library could also be located in this type of facility.

## **SANITARY SEWER AND WATER SUPPLY – GOAL**

Safe, healthful disposal of sanitary wastewater and water supply for domestic use and fire protection will be required for all new land uses.

### **Policies**

**Public Sanitary Sewer/Wastewater Treatment.** Public sanitary sewer collection and treatment will be required for all new housing, office, commercial, industrial and institutional use of land in the Village and within the Joint Planning Area. Collection and treatment capacity will be evaluated on a case by case basis, depending on location. All sanitary system improvements will be consistent with the sewer/water service area plan and municipal standards.

Existing residential areas in the Joint Planning Area that experience issues with on-site wastewater disposal will be served with public sewer during the 2007-2020 planning period.

**Water Supply.** Public water supply will be required for new housing, office, commercial, industrial and institutional uses in the Village and within the Joint Planning Area. All water supply improvements will be consistent with the sewer/water service area plan and municipal standards.

Existing subdivisions, site condominiums or other uses of land experiencing issues with safe water supply (i.e. ground water quality) will be served with public water service during the 2007-2020 planning period.

To assure long-term supply of potable water prior to actual need, the Village will aggressively identify and acquire sites for future groundwater wells, storage and necessary well head protection zones.

**Concurrency Policy.** Land development requiring public sewer and water supply will not be approved by the Village or the Township unless such services are provided to the site before or concurrent with the start of such development.

## **TRANSPORTATION – GOALS**

Provide the best possible major and local street system.

## **TRANSPORTATION POLICIES**

Continue regular liaison with Thornapple Township and the Barry County Road Commission to establish road maintenance and improvement priorities in the Joint Planning Area.

Require public streets in all new developments within the Village and prohibit use of private streets in the Joint Planning Area. Condominium developments wherein private streets are general common elements and maintenance is assured may be an allowed as an exception to this rule as well as private service drives along M-37 when addressed by reciprocal access easements to which the Village is a party.

Within the Joint Planning Area, encourage conversion of existing private roads to public streets and prohibit development of new private roads except within multi-family condominium form of development.

Access to state highway M-37 and major streets from frontage lands should be strictly controlled to assure minimal side friction, limit points of traffic conflicts and to preserve traffic safety.

Support expansion of demand responsive public transit services as area population increases.

Implement and maintain a 6 year capital improvements program for major and local streets as well as a similar program for sidewalks and pedestrian facilities.

**COMMUNITY CHARACTER,  
AESTHETICS AND DESIGN – GOAL**

Small town character and natural features of the Village and Joint Planning Area will be sustained via careful growth management and insistence on high quality design for all types of new development.

- (1) According to the Thornapple Township Master Plan 2007-2020, rural character in significant portions of the Township will be maintained by preserving farmland, requiring low density, low impact housing development in outlying areas and directing more intensive forms of land use to the Village and Joint Planning Area.
- (2) High quality design and aesthetic standards will be required of all new development or redevelopment to enhance community character. Zoning and related land development ordinances will be modified to heighten design and aesthetic standards.

**MANAGING CHANGE - GOAL**

The Planning Commission, in collaboration with the Township Planning Commission and other government agencies, will carefully manage future change and development.

**POLICIES**

- (1) The Planning Commission will be proactive in recommending changes to the Village Code of Ordinances intended to address land use issues and assure sound development practices. All such changes impacting the Joint Planning Area will be undertaken in collaboration with the Township Planning Commission.
- (2) Public notice to residents will be given for each new development requiring a zoning change or special land use consideration. As regards site plan review, notice will be given where the proposed use may create serious, negative impacts or is large scale.

- (3) As measures are implemented to manage development in the Joint Planning Area, the Village Council and Thornapple Township Board should consider and create a unified Planning Commission, that Commission to serve the entire Village and Township areas.
  
- (4) At least on 5-year intervals, the Planning Commission will convene public workshops to review content of the Master Plan and consider needed adjustments.

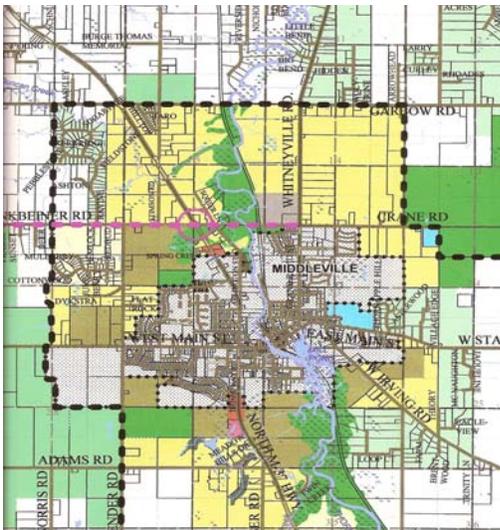
**CHAPTER 9**

**FUTURE LAND USE PLAN  
FOR THE VILLAGE OF  
MIDDLEVILLE AND  
ENVIRONS**

- Introduction**
- Future Land Use Categories**
- Thornapple River**
- Land Use Treatment**
- Crane/Finkbeiner Road Corridor**
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- Future Land Use**
- Special Planning Areas**
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- M-37 Corridor Future Land Use**
- Joint Planning Area**
- Future Land Use**

**INTRODUCTION**

Management of development in a community such as Middleville requires a well-defined future land use plan supported by sound planning rationale. The Village is significantly influenced by immigration of people from the Grand Rapids metropolitan area, hence the continuing construction of new housing. The Village has unique features to be addressed in the Future Land Use Plan including: 1) areas along the Thornapple River valley, (2) planning uses of existing vacant land (3) specialized planning areas (4) treatment of frontage lands along highway M-37 and (5) revitalization of old downtown. A related consideration is the intended second bridge crossing and new east/west arterial highway.



In preparing this Future Land Use Plan, the Village Planning Commission has drawn on considerable data resources including history of the area, natural resource inventory, population and economic information, pattern of existing land use and prior resident opinion surveys.

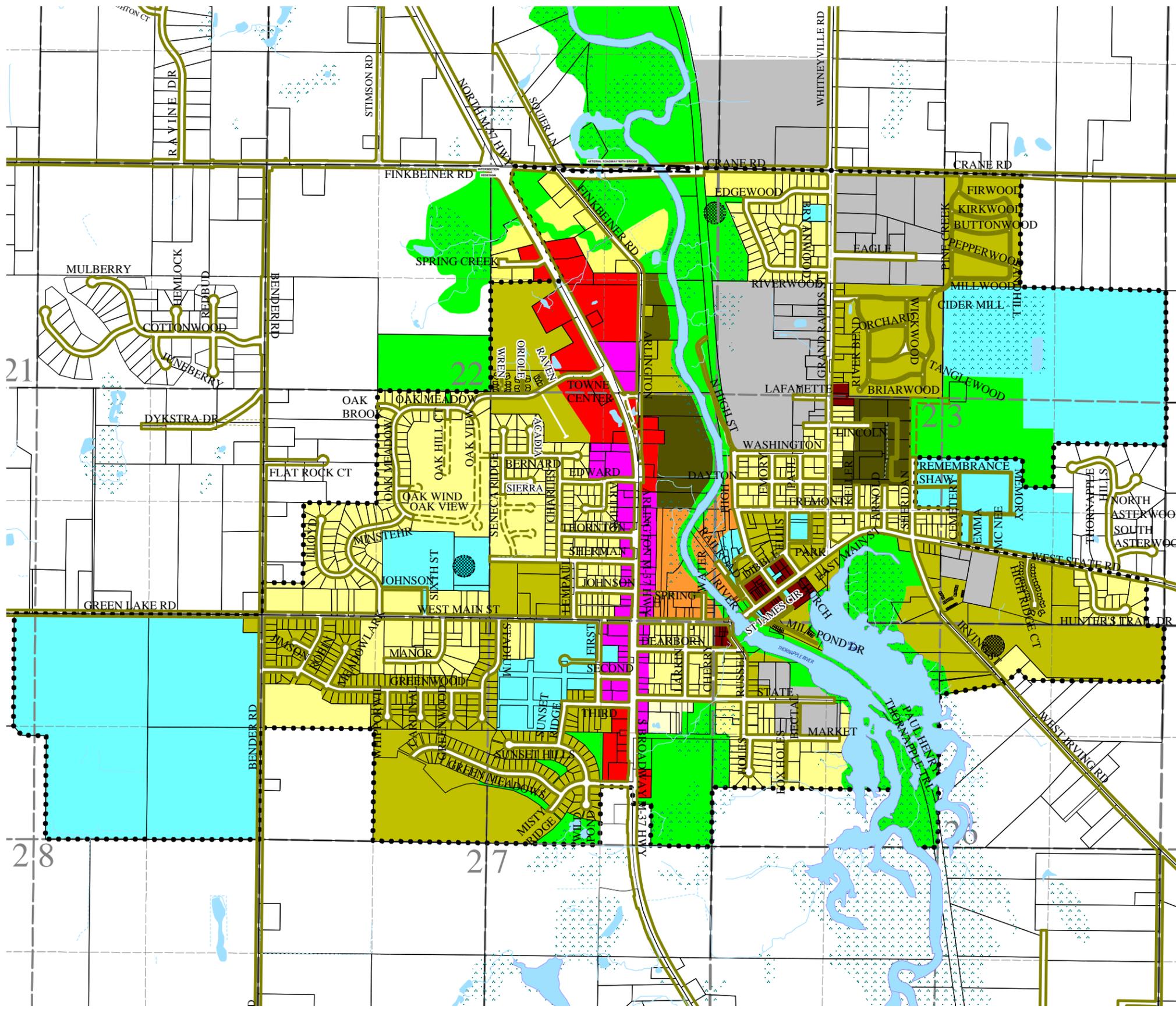
The Plan and companion narrative is based on conclusions from the Commission's review of data and knowledge of the present day Village. **Map 9-1** presents the physical plan for land use by type, location and density. This companion narrative explains the Commission's rationale for the plan as presented.

# VILLAGE OF MIDDLEVILLE

BARRY COUNTY, MICHIGAN



## MAP 9-1 FUTURE LAND USE PLAN



**Legend:**

- A - Agriculture (1.5 acre/du)
- AR - Agriculture-Residential (1.5 acre/du)
- RR - Rural Residential (1.5 acre/du)
- VR - Very Low Density Residential (1-2 du/acre)
- LR - Low Density Residential (3-4 du/acre)
- MR - Medium Density Residential (4-8 du/acre)
- HR - High Density Residential (8-12 du/acre)
- HC - Highway Commercial
- SDC - Special Designation Commercial
- CBD - Central Business District
- SC - Service Commercial
- I - Light Industrial
- PA - Planned Redevelopment Area
- PF - Public Facility
- Open Water
- National Wetlands Inventory
- OS - Public Open Space or Natural Area Needing Protection
- Well Head Protection Area
- Arterial Roadway with Bridge



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SOURCE: VILLAGE OF MIDDLEVILLE  
OCTOBER 2012

The Future Land Use Plan companion text addresses the various unique land use and conditions throughout the Village. In addition, the Planning Commission has engaged in close collaboration with the Thornapple Township Planning Commission to detail future land use for the so-called “Joint Planning Area” (JPA). *[See second half of this chapter]*

The JPA, in the judgment of the Village and Township Planning Commissions, is the area in which urban and suburban density land uses will occur. The reasons for creating the JPA are several, including:

- 1) Common desire to contain sprawl in favor of a more compact growth pattern,
- 2) A common plan permits setting of an urban growth boundary (JPA limits) in which new development can be authorized concurrent with extension of public water and sewer services,
- 3) The Township has ample undeveloped land in the JPA whereas the Village owns and operates public water and sewer utilities that can serve areas in the JPA (the Village has little remaining undeveloped land),
- 4) The Village and Township are equally influenced by M-37 and the intended east/west arterial roadway connecting with US 131,
- 5) A common land use plan for the JPA forms the basis for cooperative decision-making and orderly expansion of the urbanized area into the JPA,
- 6) A common plan for the JPA forms the basis for a common set of growth management ordinances and administration thereof.

## **FUTURE LAND USE CATEGORIES**

A portion of the Village’s Future Land Use Plan has been compiled in collaboration with the Thornapple Township Planning Commission. Specifically, that geographic area identified previously as the “Joint Planning Area” (JPA). This area is bounded by Robertson Road on the east, Garbow Road on the north, Scales Prairie on the west and the south township boundary, a total of about 10 square miles. Thus, substantially more future land use categories are included in this plan update than are found in the previous 1989 Village Master Plan. These include categories for both the Village and the JPA. Land areas within the JPA are currently within the Township.

### **Agricultural**

Areas of prime and important farmland soils on which active crop, animal production (including intensive livestock operations) or specialty farming is currently evident.

**Agricultural – Residential**

This category includes mixed uses in which crop, animal production and specialty farming (not intensive livestock operations) would occur as well as homes on 1.5 acre minimum parcel size.

**Rural Residential**

An exclusively single family residential use category with a minimum parcel size of 1.5 acres.

**Very Low Density Residential**

A single-family detached residential use category, permitting 1-2 dwelling units per acre of land with a minimum lot area of 20,000 square feet. Public water and sanitary sewer are required for this category. Clustering residential sites and comparable provision of open space will be an option.

**Low Density Residential**

The most common residential use category within the Village. This category includes single-family detached dwelling on lots of 12,000 square feet, two family dwellings and cluster residential at a density of 3-4 dwellings per acre of land. Public water and sanitary sewer to each dwelling is required with clustering as an option.

**Medium Density Residential**

This category includes a variety of attached and detached dwelling types at a density range of 4-8 dwellings per acre. Residential structures may be developed up to 3 stories in height. Public water and sanitary sewer services are required for all medium density residential sites. Medium density residential locations will be developed with respect to existing natural environments, will take advantage of view sheds, will be pedestrian friendly, and have a full compliment of site amenities.

**High Density Residential**

A multiple family residential use category, high density residential will be carefully located within the Village at locations with a full compliment of public infrastructure. Multi-story residential buildings will be included. High density residential locations will be developed with respect for existing natural environ-

ments, to take optimum advantage of view sheds, will be pedestrian friendly and will be landscaped, include period lighting, signage and architectural styles. Base density will be 8 dwellings per acre with a full array of site amenities up to 12 dwellings per acre.

### **Highway Commercial**

This is the most generous of commercial use categories incorporating a broad array of office, retail and personal service uses. Examples of uses included in this category include business and professional, all types of retail sales and may include retail business with outdoor merchandise display, depending on site conditions. "Big box" retail businesses occupying more than 40,000 square feet of contiguous floor area are not included in this category.

### **Central Business District**

This is a mixed use category including storefront retail, service, office and government uses as well as a variety of residential uses, including upper story in mixed use buildings.

### **Special Designation Commercial**

This category addresses the numerous small parcels of land primarily fronting on M-37 within the Village. This designation means shared access; common redevelopment plans and special standards will apply in these areas.

### **Planned Redevelopment Area**

The East Bank Redevelopment Area reflects the intent to accommodate a mixture of public gathering spaces in this area and to establish it as a focal point in the community. Public and mixed uses, as illustrated in Chapter 7 and as promulgated by the Downtown Development Authority's concept plan for the area, are encouraged to enhance sense of community and placemaking efforts of the Village.

The area west of the river includes sensitive lands and those areas should be maintained free from the encroachment of development. Lands without sensitive natural features may develop under the High Density Residential designation.

The area between the former Spring Street and Main Street currently primarily consists of residential uses. The long-term vision for this area includes a mixture of uses and higher-density residential uses as described in Chapter 15.

### **Light Industrial**

This future use category includes most forms of assembly, fabrication, manufacturing, scientific and technology research. Not included are refining of organic compounds and chemicals, cement and asphalt production or recycling activities, mining of aggregates, stone or metals, power generation and similar activities involving significant emissions of dust, odors, fumes or noise due to outdoor equipment operations, materials processing or similar activities.

### **Public Open Space**

This category of use includes land in public ownership intended for passive or active use by the public.

### **Public Facility**

All publicly owned and operated institutions including local government offices, public safety facilities, public schools, colleges, county, state or federal facilities and the companion property.

### **Natural Areas Needing Protection**

Land areas that include Thornapple River riverbank, 100-year flood plain, regulated wetlands (5 or more contiguous acres), areas with significant relief (slopes of 12% or greater) and areas containing rare or endangered fauna, flora or habitat for wildlife species. The objective for this category is to include areas to be in public ownership for purpose of long-term protection and preservation. Typically, as land is developed, portions of the development site identified in this category would be conveyed into public ownership or will be included in some form of conservation easement. For Thornapple riverbank areas within this established Joint Planning Area, the objective will be to create public ownership for eventual pedestrian walkways and trails adjacent to the river.

### **Wellhead Protection Area**

This future land use designation is intended as an overlay, to help protect the public water supply in the community.

## **THORNAPPLE RIVER LAND USE TREATMENT**

Representing the Village's most important natural resource, shore lands of the Thornapple River should be permanently protected in public ownership or subject to non-build conservation easements.

Areas of shore land are highlighted on **Map 9-1** in green and considered as a “*natural area*” needing protection. It is the position of the Village Planning Commission that any future development occurring on lands with river frontage will include not less than 50 feet of permanent open space public easement or ownership along the water’s edge, flood plain and/or contiguous wetlands, which ever covers a greater land area.

Public access to these areas will be facilitated by building eco-sensitive trails or walkways through these areas. Each private development will be required to dedicate right-of-way for public walking along the river banks.

## **VACANT LANDS – FUTURE LAND USE**

While largely developed, there are areas within the Village limits remaining vacant. These areas include: a) 20 acres more or less between Arlington and the Thornapple River, b) about 15 acres along Irving Road adjoining the “Mill Pond” and c) the former ski hill land comprising 26 acres of land more or less.

### **A. The West Bank Area**

The “west bank” area along the Thornapple River contains a mix of inlands and wetlands. Total non-regulated land area may be as much as 10 acres. These intermingled “uplands” have exceptional surrounding natural environment and river views. This area is recommended for pockets of high density residential land use. Uplands in this area have access to public sanitary sewer and water supply. Combined with a river walk, these high density settlements will offer excellent residential settings and are an easy walk to old downtown along the river.

Planning practice for revitalization of and maintaining economic health of old downtown areas call for higher density residential use to be within walking distance. This west bank area is ideal in that context. This area is shown in the 1989 Village Plan as part public use and part high density residential at about 10 dwellings per acre.

### **B. Irving Road/Mill Pond Area**

Extending south from the intersection of East Main Street and Irving Road, this area along the so-called Mill Pond contains about 50 feet of vertical elevation. Views across the mill pond from the top of slopes are quite beautiful, especially at sunset. As with the west bank, this area is in close proximity to old downtown and easy walking distance. Medium density residential land use is planned, assuming a full compliment of public infrastructure to serve this land use including sidewalks. This area was shown as Medium Density Residential at 6 dwellings per acre in the 1989 Village Plan.

### **C. "Ski Hill" Area**

This 26 acre land area was shown as "public ownership" in the 1989 Village Plan. In about 1995, the Village sold this property. Current uses adjoining this parcel in the Village are two apartment areas, attached condominiums in two areas and Hunters Ridge Subdivision. The land form on this property is very exceptional. Elevation near Irving Road is about 756 feet above sea level and then rising to 967 feet at the top of the former ski hill. The property contains a mix of meadow and woodland.

Significant public water infrastructure exists on this land. A municipal water well is located near Irving Road and water mains extend up slope to a ground storage facility.

This parcel is not suited for traditional subdivision type development due to the grade change. Medium density residential using cluster design or multi-story residential format with extensive integrated open space is a better fit.

## **M-37 CORRIDOR – FUTURE LAND USE**

M-37 is a state trunk line traversing the Village. This route segment is about 1.25 miles in length through the Village. M-37 functions as a regional arterial highway primarily intended to serve through traffic with limited direct access from abutting properties. Intensive types of land use are not planned in the Township along the M-37 corridor in favor of areas in the Village and Joint Planning Area. Chapter 15, Special Area Plans, details future land use within the Village.

Most of the M-37 frontage will be in a special designation commercial, a category of planned land use that will require managed road access, heightened urban design and site standards, all intended to create a functional, safe and visually pleasing urban environment and streetscape.

The redevelopment process for frontage lands will require one or more decades. The Planning Commission will have to create and then maintain consistent regulations and standards to achieve the plan objectives.

## **ZONING PLAN**

Section 33, (2), (d), of the Michigan Planning Enabling Act (Act 33 of 2008) requires that Master Plans adopted after September 1, 2008 include a Zoning Plan to explain how the future land use categories in this Plan relate to the zoning districts incorporated in the Village's Zoning Ordinance. The following table relates the more general future land use categories with the zoning districts and discusses features and factors to be considered in reviewing requests to rezone lands in the Village consistent with this plan.

Future Land Use Categories	Supporting and Compatible Zoning Districts	Additional Potentially Compatible Zoning Districts	Evaluation Factors and Features to Determine Eligibility for Additional Potentially Compatible Zoning Districts
Agricultural	A, Agricultural		
Agriculture-Residential	A, Agricultural RE, Residential Estates		
Rural Residential	RE, Residential Estates		
Very Low Density Residential	RE, Residential Estates		
Low Density Residential	R-1, Low Density Single Family		
Medium Density Residential	R-1, Low Density Single Family	R-2, Medium Density Single Family	If development is compatible with adjacent land uses and supports the intended character of the proposed district
		R-3, Multiple Family Residential	If public sewer is provided and new development includes open space and pedestrian amenities and is formed into a walkable community; and if adjacent to land already zoned R-3
		R-4, Mobile Home Residential	If public sewer is provided and new development includes open space and pedestrian amenities and is formed into a walkable community; and if adjacent to land already zoned R-4
High Density Residential	R-3, Multiple Family Residential		
Highway Commercial	C-2, Highway Commercial		
Special Designation Commercial	Develop new district	Many of these areas are zoned C-2, but that zoning district does not implement many of the site configuration, design or land use guidelines promoted by this Plan. The C-2 district should therefore be amended or a new zoning district should be developed. If neither is achieved, the C-2 district may be deemed appropriate as the supporting and compatible district if the development meets objectives of the Special Designation Commercial future land use description and other policies advocated for this area of the Village.	
Planned Redevelopment Area	R-3, Multiple Family Residential	C-1, Central Business	If development is compatible with adjacent uses, supports the intended character of the redevelopment area, and includes open space and pedestrian amenities and is formed into a walkable community
Central Business District	C-1, Central Business		
Light Industrial	I-1, Light Industrial	I-2, Heavy Industrial	If public sewer is provided and new development is compatible with adjacent land uses
Public Facility	Develop new district	R-1, Low Density Single Family	The intent is that land remain in public use; however, if land were to become developed for other purposes, it should be developed under the R-1 district, the predominant zoning district surrounding lands designated Public Facility. Otherwise, the Village may develop a new zoning district.
National Wetlands Inventory	None	This is not a future land use designation, and is only illustrated as an informational overlay to show approximate and potential wetland conditions.	
Wellhead Protection Area	WP, Wellhead Protection Overlay		
Public Open Space or Natural Area Needing Protection	NR, Natural River		

\* The Planned Unit Development District is presented in the Zoning Ordinance as an option.

In considering a request to rezone property in the Village of Middleville, the Planning Commission must consider the future land use map and the future land use descriptive narrative of this plan. The foregoing table should be used to evaluate the degree to which the proposed rezoning is, or may be, consistent with this plan together with an evaluation of the specific request. The proposed rezoning decision should also consider whether the proposed site may be reasonably used as it is currently zoned, whether the proposed site is an appropriate location for any and all of the land uses that might be permitted within the requested zoning district, whether there may be other locations in the community that are better suited to accommodate such uses and any potential detrimental impact on the surrounding property that could result from the proposed rezoning.

In all cases, this Zoning Plan should be applied as a guideline for the Planning Commission subject to the appropriate application of the discretionary authority permitted to the Planning Commission and Village Council by statute, case law and good planning practice. Nothing in this Zoning Plan will preclude the Planning Commission and Village Council from considering amendments to this Master Plan to better serve the public interests of the community.

## **JOINT PLANNING AREA – FUTURE LAND USE**

As stated earlier, the Joint Planning Area consists of about 10 square miles of land within Thornapple Township adjacent to the Village. **Map 9-2** presents planned future land uses. The use categories and locations shown are identical to those presented in the 2007-2020 Thornapple Township Master Plan.

This element of the Village 2007-2020 Master Plan is a result of meetings with the Thornapple Township Planning Commission. Both Commissions agree that coordinated, managed growth from the urban/suburban center outward can only be successful with such an approach.

The JPA Future Land Use Plan includes limited additional commercial and office land use near M-37/Spring Creek Court and south to the Hospital Purchasing Services site. No other areas are planned for commercial use in the JPA due to 1) amount of available land within the Village for such uses 2) planned unit development provisions permitting convenience retail and office uses as a percent of land use and 3) strip commercial development in new areas along M-37 is discouraged.

About 40 acres of additional industrial land is planned in the SW ¼ of Section 14 adjacent to the new all-weather, east-west arterial roadway.

The major land use category planned for the JPA is Medium Density Residential. About 550 acres of land in parcels adjacent to the Village are shown in the category.

Low density residential land use, comprising about 2,250 acres is located in more outlying areas of the JPA.

Natural area presentation in the form of open space is indicated for portions of all lands abutting the Thornapple River.

# JOINT PLANNING AREA

THORNAPPLE TOWNSHIP  
VILLAGE OF MIDDLEVILLE  
BARRY COUNTY



## MAP 9-3

## FUTURE LANDUSE PLAN

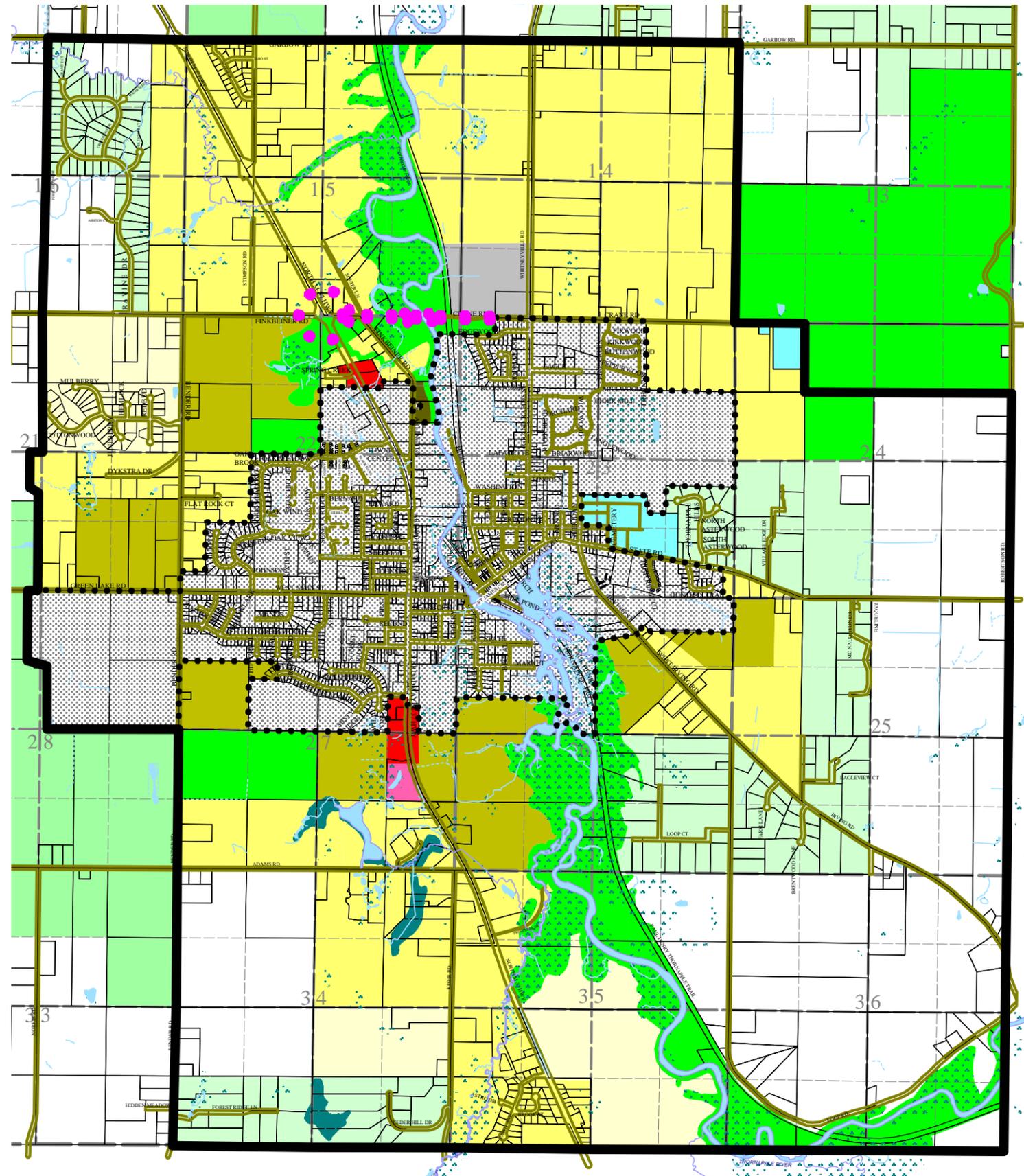
### Legend:

-  A - Agriculture
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-  LR - Low Density Residential
-  MR - Medium Density Residential
-  HR - High Density Residential
-  O - Office
-  HC - Highway Commercial
-  CBD - Central Business District
-  SC - Service Commercial
-  I - Light Industrial
-  OS - Public Open Space
-  PF - Public Facility
-  Natural Area needing protection
-  Open Water
-  National Wetlands Inventory
-  Road Reconstruction, Bridge & Extension
-  Village Boundary
-  Joint Planning Area



SCALE 1" = 2400'  
BARRY COUNTY LAND  
INFORMATION SERVICE  
JANUARY 2007

SOURCE: THORNAPPLE TOWNSHIP & VILLAGE OF MIDDLEVILLE 2005



## **Chapter 10**

# **Wastewater Collection and Treatment**



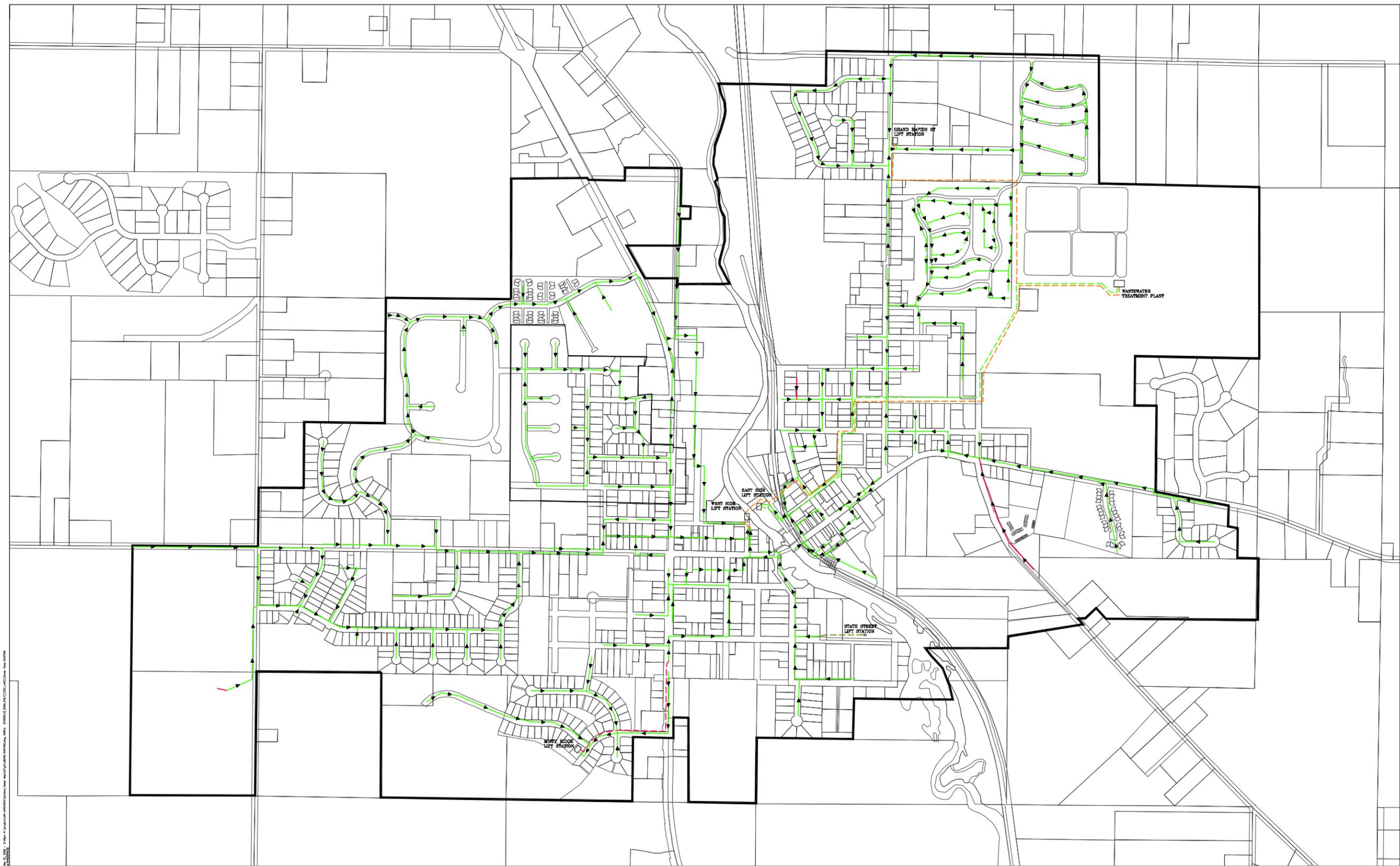
### **Existing Conditions**

The Village of Middleville wastewater components have been in service for many years. This utility provides needed capacity and is sufficient in most areas to carry the Village for the 2007 – 2020 planning period. However, new growth will place strains on certain parts of the system, and certain parts will need updating and reinforcement. Determining which parts of the collection system will need improvements involves taking inventory of what is in service. **Map 10-1** shows the existing wastewater collection system in the Village.

The Village and Thornapple Township Planning Commissions collaborated in planning future land use within the area known as the Joint Planning Area. This area is beyond the existing Village Limits within the Township. The two Planning Commissions concluded early on in the planning process that a common, compatible Master Plan for future land use and municipal services was the key to effective growth management. This chapter addresses expected needs for future Village wastewater collection and treatment as well as future trunk sewer and lift station locations extending into the Joint Planning Area.

### **Wastewater Collection.**

The backbone of a wastewater system is the collection system. The vast majority of the Village's collection system is 8" diameter sanitary sewer. Because of the branching technique used in designing sewers, only certain sewers carry the term "trunk sewers." Trunk sewers are used in conjunction with lift stations and forcemains to transport the waste from outlying areas to the treatment facility. Only these sewers will be impacted by new development in the outlying areas of the system, and as such only these sewers have been evaluated. **Table 10-1** below shows the seven trunk sewers that will be



**FIGURE 10-1**  
**EXISTING WASTEWATER**  
**COLLECTION SYSTEM**  
**VILLAGE OF MIDDLEVILLE**  
**JULY 2006**



- LEGEND**
- 4" FORCEMAIN
  - 6" SANITARY
  - 6" FORCEMAIN
  - 8" SANITARY
  - 8" FORCEMAIN
  - 12" SANITARY
  - 12" FORCEMAIN
  - VILLAGE LIMITS
  - ▲ FLOW DIRECTION ARROW
  - LIFT STATION

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affected by new development within the Joint Planning Area. As some parts of these sewers will be able to carry more waste than others, the table shows the limiting portion(s) of each sewer, how many homes are currently served by that portion, and how many more homes can be served until the sewer will be at its maximum capacity.

**Table 10-1**  
**Trunk Sewer Existing Flows**  
**(All Sewers 8" Diameter)**

	From	To	Length	Slope	Max Q	Ex.	Ex.	Avail.	Avail.
Street	MH	MH	(ft)	S (ft/ft)	(gpm)	REUs	(gpm)	REUs	(gpm)
<i>Grand Rapids Street North</i>									
Grand Rapids	Eagle Dr.	MH North	357	0.0027	307	15	10	426	296
<i>M-37 North</i>									
East from Arlington	Arlington Ct.	MH East	278	0.0035	346	156	108	342	238
East of M-37	Northermost MH	MH South	249	0.0035	346	156	108	342	238
<i>M-37 South</i>									
East Water St.	West Main	Mid-Water	225	0.0033	338	307	213	179	125
<i>Green Lake Road West</i>									
West Water St.	Mid-Water	Spring	50	0.0024	287	330	229	83	57
Lem Paul St.	South West Main	North West Main	133	0.0068	481	621	431	72	50
<i>Irving Road South &amp; State Road East</i>									
Paul St	Dayton St.	Washington	250	0.0035	345	919	319	75	26
Grand Rapids	Fremont St.	Dayton St.	320	0.0037	354	911	316	108	37
Dibble Street	Railroad St.	River St.	110	0.0042	378	978	340	112	39
<i>Bender Road South</i>									
See Green Lake Road West									

For areas served that are not residential, flows are converted to units equal to the waste generated by one typical residential unit. These units are called Residential Equivalent Units (REUs). REUs are based on average daily residential flows, meaning that on average each person in the community generates 100 gallons per day of waste, and Village data shows there is an average of about two and a half persons per household. This means each REU contributes 250 gallons per day on average. At any given time, the flows could be higher than the average. Because of this, sizing of pipes, lift stations, and treatment facilities are based on peak flows. A peaking factor is used to multiply the average flows to determine peak flows. The Great Lakes Upper Mississippi River Board (10 State Standards), a group of professionals who make recommendations on sewer treatment and collection, recommends a peaking factor of 3.42 for the Village of Middleville, based on its population. However, this peaking factor would cause many of the sewers in the Village to overflow. Since this is not the case, as all of the sewers in the Village are able to carry the flows through them without problems, the true peaking factor must be less than 3.42. A peaking factor of 2.0 allows the sewers in the Village to carry what they do, and is conservative enough to show problems before they occur. For the purposes of this study, a peaking factor of 2.0 will be used.

After travel through the trunk sewers, the wastewater reaches an elevation beyond which gravity sewers cannot carry the waste. The waste is then pumped from a lift station through a forcemain either to another gravity sewer at a higher elevation, or directly to the wastewater treatment plant. The capacities of the four major lift stations in the Village are shown in **Table 10-2**. The key values to note are the pump capacity, cycles per hour, also known as starts per hour, and the percentage time the pumps are running. These values show how near the pumps are to capacity and also gives an idea of how often maintenance will be required. If these values exceed reasonable limits, it may be in the Village's best interest to look at replacing the pumps with larger pumps, or reconstructing the lift station with a larger capacity holding well. In **Table 10-3**, the current velocities in the respective forcemains are shown. Typically, forcemain velocities should not exceed 8 feet per second.

**Table 10-2**  
**Lift Station Existing Flows and Pumping Characteristics**

Lift Station	REU's	Peak Flow (gpm)	Pump Flow (gpm)	Total Cycle Time (min)	Cycles Per Hour	Runtime %
Misty Ridge	112	39	100	27.7	2.2	39
Grand Rapids	106	37	350	15.8	3.8	11
East Side	983	341	600	6.5	9.3	59
West Side	1084	376	700	5.2	11.6	54

**Table 10-3**  
**Forcemain Velocities**

LS Forcemain	Size (in.)	Pumping Rate (gpm)	Velocity (ft/s)
Misty Ridge	6	100	2.80
Grand Rapids	12	350	2.45
East Side	8	600	9.44
West Side	12	700	4.89

### Wastewater Treatment.

After receiving the waste from the collection system, the treatment facility has a capacity of its own that needs to be evaluated. Capacity of the Village's wastewater treatment plant (WWTP) average daily flow capacity of 500,000 gpd is the limiting factor. Currently, the treatment facility sees flows of approximately 310,000 gallons per day on average. In the past, these flows typically have increased in the spring and summer because of groundwater infiltrating the collection system, and decreased in the winter. However, recent improvements to the existing collection system have significantly decreased the amount of groundwater infiltration into the system.

The current permit on file with the Michigan Department of Environmental Quality (MDEQ) allows the Village to discharge 1,300,000 gallons per day through the infiltration beds at the treatment plant. As stated earlier, the rated treatment capacity of the plant is 500,000 gallons per day. Typically a treatment facility begins planning an expansion when it reaches 80% of its design capacity to prevent problems if flows unexpectedly increase in the short term. New development would have to generate 90,000 gallons per day before a treatment facility expansion would need to be planned. The next plant expansion would most likely add an additional 250,000 gallons per day by building a third sequencing batch reactor (SBR) tank.

Few, if any, onsite private wastewater disposal systems exist within the Village limits. It is the Village's intent that all parcels within the Village limits will be served by sanitary sewer. Sanitary sewer extensions will be driven by development location and land use rather than soil or groundwater quality. Outside the Village limits in Thornapple Township homes are served by private on-site systems. Property owners will abandon these septic systems when hook up to the Village sewer system is available.

### **Land Use and Population Growth.**

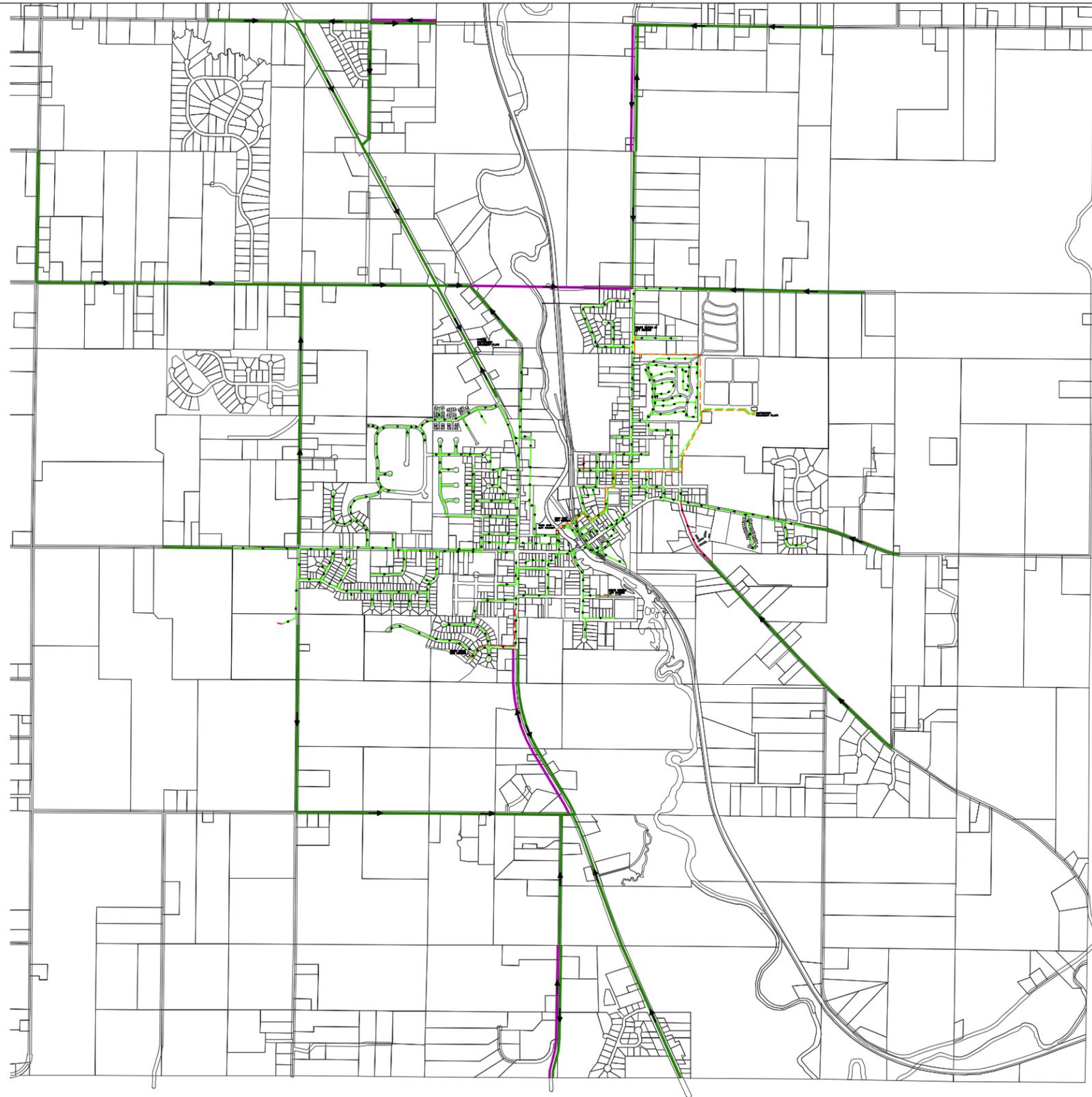
The majority of growth anticipated in the area will be residential. Some highway commercial is expected along the M-37 corridor. Should a type of development occur that is not residential or commercial in nature, a projection based on residential development with reasonable densities should model any other type of development. The exception will be wet process industries that will need to be evaluated on a case-by-case basis.

For more information on land use and population growth, see Chapter IV – Population, Housing and Economic Indicators. Also see Chapter IX for a map of the future land use areas and types for the Joint Planning Area.

### **System Needs to Serve Projected Growth.**

The location of the new trunk sewers needed to serve development areas within the Joint Planning Area is shown in **Map 10-2**. These sewers have not been sized, although work has been performed to make sure that as the flow arrows are shown, gravity sewers are able to serve all areas with only the additional lift stations and forcemains shown on the plans.

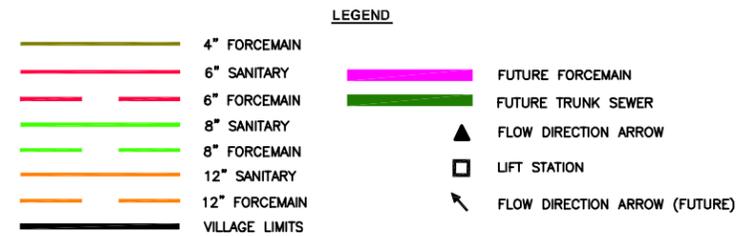
The sewer has been laid out to minimize the number of lift stations needed, as these are more expensive to build and maintain than a gravity system. If development occurs in areas that are not conducive to gravity sewer, more lift stations certainly can be added as cost benefit analysis justifies. Ideally, development will occur in such a manner that the existing system will only need to be extended a short distance, as this is the most cost effective approach. If development should occur in areas further away from existing sewer, lift stations collecting this waste and pumping it to the nearest gravity section of sewer may be the most cost effective manner of serving these areas.



**FIGURE 10-2  
FUTURE WASTEWATER  
COLLECTION SYSTEM  
WITHIN THE JOINT PLANNING AREA  
2006**



NOT TO SCALE



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**Map 10-2** shows that all development in the south is collected at a central lift station near M-37 and Adams Road. This waste is then pumped into the gravity system that feeds the West Side Lift Station. An alternative to this arrangement is to pump everything from the southwest into the gravity sewer serving the Misty Ridge Lift Station, eliminating some forcemain length. Current projections show the Misty Ridge Lift Station would be stressed by these additional requirements, and might need to be upgraded.

### Impact of Projections on Existing System.

The trunk sewers that will receive the additional waste generated by the new development will be the hardest hit by the larger flows. Shown below in **Table 10-4** are the trunk sewers that will collect the waste from the four major areas of development – Northeast, Northwest, Southeast, and Southwest. The format is similar to that shown under existing conditions, with the exception that the effect of the flows is shown for the years 2010, 2015, and 2020. The same sections of sewer are shown as are in the “existing conditions”. Once again, the complete table of data is shown in Appendix X.

**Table 10-4**  
**Effect of Additional Flows on Existing Trunk Sewers near Capacity**  
**(All Sewers 8” Diameter)**

Street	From	To	Year	Length (ft)	Slope S (ft/ft)	Max Flow (gpm)	Ex. REUs	Ex. (gpm)	Avail. REUs	Avail. (gpm)
<i>Grand Rapids Street North, Serving Northeast and Northwest Development</i>										
Grand Rapids	Eagle Dr.	MH North	2010	357	0.0027	307	142	99	299	208
			2015				269	93	614	213
			2020				396	138	487	169
<i>M-37 South, Serving Southwest Development</i>										
Water St.	West Main	Mid-Water	2010	225	0.0033	338	363	126	610	212
			2015				420	146	553	192
			2020				477	166	496	172
<i>Irving Road and State Road East, Serving Southeast Development</i>										
Paul St	Dayton St.	Washington	2010	250	0.0035	345	938	326	56	19
			2015				957	332	37	13
			2020				976	339	18	6
Grand Rapids	Fremont St.	Dayton St.	2010	320	0.0037	354	930	323	89	31
			2015				949	330	71	24
			2020				968	336	52	18
Dibble Street	Railroad St.	River St.	2010	110	0.0042	378	997	346	93	32
			2015				1016	353	73	25
			2020				1035	359	54	19

The data shows that certain sections will be approaching their capacity in a particular year.

Although it appears that all sections of sewer throughout the Village would be able to handle the new development, this model is only an approximation of the existing and potential conditions.

The Village should plan on replacing some sections of sewer as new development enters the areas that will affect these sewers as soon as budget considerations will allow. Many of these sewers are close to capacity right now, and more flow could create backups. Should development occur not according to the future planned land use, more replacements may be needed. This is especially true if much of the development were to happen to the southeast of the Village. Many of the sections of sewer that need attention are in the Old Downtown area on the east side of the river.

The lift stations in the system that will be receiving the flows from the trunk sewers handling the additional flows are shown in **Table 10-5**.

**Table 10-5**  
**Lift Station Future Flows and Pumping Characteristics**

Lift Station	Year	REU's	Peak Flow (gpm)	Pump Flow (gpm)	Total Cycle Time (min)	Cycles Per Hour	Runtime %
Grand Rapids	Existing	106	37	350	15.75	3.81	10.52
	2010	233	81		8.34	7.20	23.12
	2015	360	125		6.45	9.30	35.71
	2020	487	169		5.93	10.11	48.31
East Side	Existing	983	341	600	6.46	9.28	56.89
	2010	1002	348		6.51	9.22	57.99
	2015	1021	355		6.56	9.15	59.09
	2020	1040	361		6.62	9.07	60.19
West Side	Existing	1084	376	700	5.16	11.62	53.77
	2010	1140	396		5.22	11.49	56.55
	2015	1197	416		5.32	11.28	59.38
	2020	1254	435		5.46	10.99	62.20

Should development occur at the projected rate, steps will need to be taken to upgrade the wastewater treatment facility. Should the current wastewater generation factor remain unchanged, the projected development will create an additional 150,000 gallons per day. This will bring total peak flows into the plant to 460,000 gallons per day. Although the capacity of the infiltration beds has been increased in recent years, the capacity of the plant has not. An expansion of the WWTP would be needed to treat the increased flow. The estimated year in which the plant will pass 80% of its capacity is 2014.

## Chapter 11

# Water System and Future Supply

### Existing Conditions

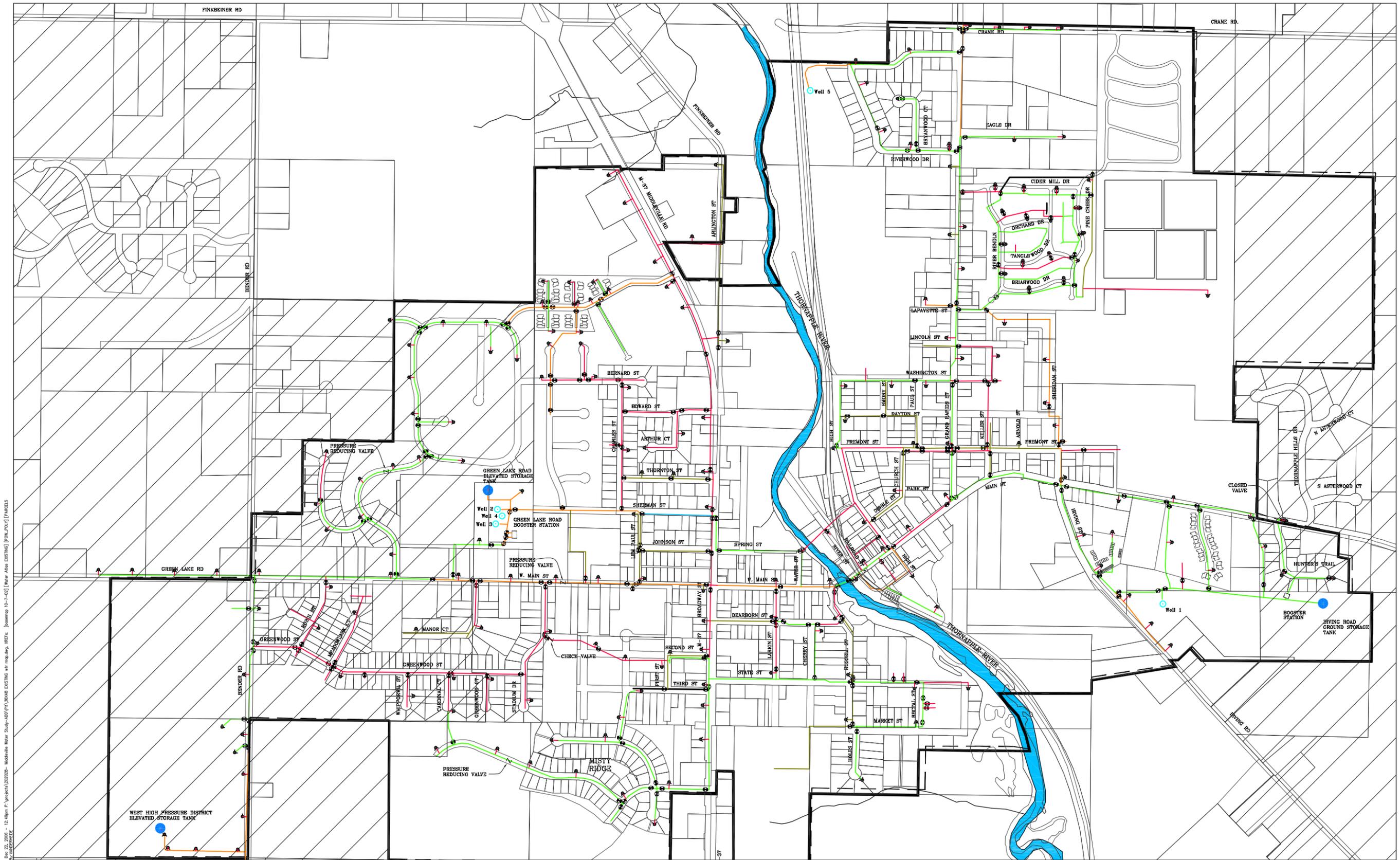


The Village of Middleville is a forward thinking community, and as such, water system components have been in service for many years and are sufficient in most areas to carry the Village well into the future. However, new growth has placed strains on certain parts of the system, and certain parts will need updating and capacity improvements. Part of determining which parts will need these improvements is taking inventory of what is in service. **Map 11-1** shows the existing water system in the Village.

The Village and Thornapple Township Planning Commissions collaborated in planning an area known as the Joint Planning Area (JPA). This chapter addresses expected needs for future Village water supply and distribution as well as future water main locations within the JPA.



The existing water system in the Village consists of three wells, a ground storage tank, an elevated storage tank, and booster stations. The existing system has reached capacity, and the Village has undertaken to construct a second elevated storage tank on the west side of the Village near the schools off Bender Road, and a new well near the northern edge of the Village on the east side of the river. **Table 11-1** and **Table 11-2** show information on the existing wells and storage in the Village, respectively. For more information on the existing system see the 2003 Village of Middleville Water System Reliability Study & Hydraulic Analysis.



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**FIGURE 11-1**  
**EXISTING WATER**  
**DISTRIBUTION SYSTEM**  
**VILLAGE OF MIDDLEVILLE**  
**JULY 2006**



LEGEND			
	2" WATER LINE		WATER VALVE
	4" WATER LINE		CHECK VALVE OR PRESSURE REDUCING VALVE
	6" WATER LINE		HYDRANT
	8" WATER LINE		WELL
	10" WATER LINE		ELEVATED STORAGE TANK
	12" WATER LINE		BOOSTER STATION
	HIGH PRESSURE DISTRICT		

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**Table 11-1  
Existing Well Capacities & Characteristics  
(From 2003 Reliability Study)**

	Well No. 1	Well No. 2	Well No. 3	Well No. 4	Well No. 5	Totals
Date Drilled	1946	1946	1960s	1996	2006	
Diameter	8"	12"	12"	12"	12"	
Total Depth	75'	103'	109'	352'	320'	
Pump Motor Hp	20	100	50	50	60	
Rated Capacity (gpm)	500	1,350	850	250	450	3,400
Current Capacity (gpm)	400	1,200	450	270	450	2,770
Date of Last Inspection	1990	1995	2000	N/A	N/A	
2006 Nitrate Test Level						
Max. MCL - Nitrates						
Run Time						

**Table 11-2  
Existing Storage Tanks  
(From 2003 Reliability Study)**

	Green Lake Road	Irving Road	Bender Road
Type of Tank	Multi-Column	Rectangular	Spheroid
Manufacturer	Chicago Bridge & Iron	N/A	Maguire Iron
Year of Construction	1974	1953	2007
Capacity (gallons)	200,000	175,000	250,000
Low Water Level Elevation	867'	872'	929'
Operating Range	20'	17'	31'
Date of Last Inspection	1993	1997	2007

Very few if any private water wells exist within the Village limits. It is the Village's intent that all parcels within the Village limits are served by public water supply. Water main extensions will be driven by development location and land use rather than soil or groundwater quality. Landowners in Thornapple Township are served by private on-site water wells.

## Land Use and Population Growth

The majority of new development for the 2007-2020 period is expected to be residential at various densities. Some highway commercial is expected along the M-37 corridor. Should a type of development occur that is not residential or commercial in nature, a projected water demand based on residential development with reasonable densities should model any other type of development. The exception will be wet process industries that will need to be evaluated on a case-by-case basis, with enough accuracy to ensure an adequate water supply for consumption and fire protection for the future.

A few assumptions were made in the modeling. Based on demographics and past trends, it was assumed that development of a particular type will be proportional to the future land use devoted to that type of development. For example, because more future land is envisioned as medium density residential (MR), the majority of new development will happen in those areas and contain those densities assigned to that type.

It was also assumed that all parcels within the Village are developed and are served by public water supply. While this may not be the case in certain small areas, for the majority of the Village it is true and this will simplify determining how many new homes will contribute to any particular area of the utility system.

For more information on forecasted population growth, see Chapter IV – Population, Housing and Economic Indicators. Also, see **Map 9-2** in Chapter 9 for a map of the future land use areas and types planned for the Joint Planning Area.

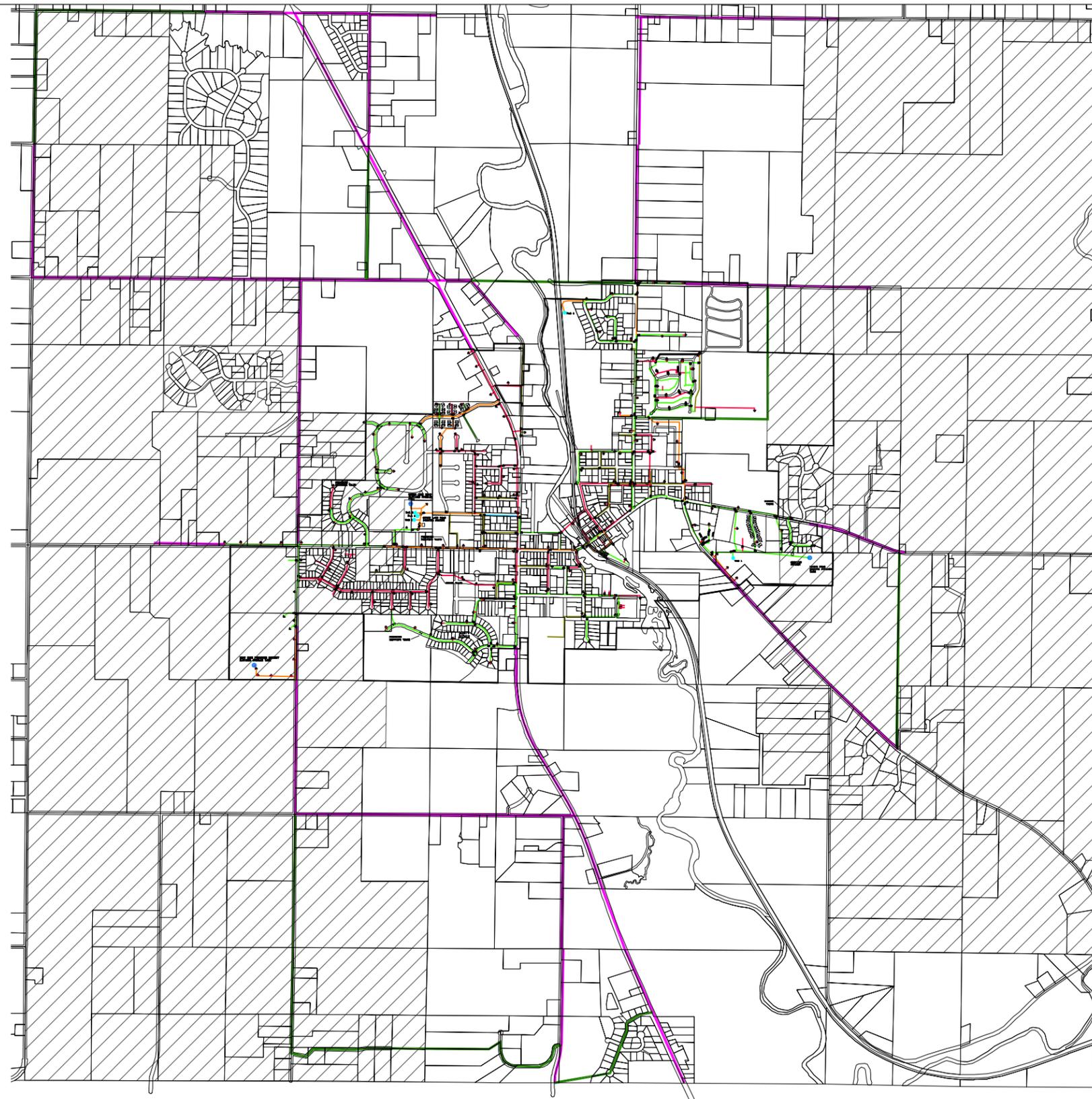
## System Needs to Serve Projected Growth

The location of the new water mains needed to serve the Joint Planning Area is shown in **Map 11-2**. Future water main extensions have not been sized.

The Village should plan on several loops in the new water mains as they are extended to provide redundancy in the system, should a part of it fail, need to be upgraded, or shutoff for repair. Suggested loops are shown on **Map 11-2**.

New wells and storage will be needed to serve the additional development. Groundwater investigations and mapping have shown that the best area to locate future wells in or near the Village is to the east and southeast of the Village. This area represents the best water source as regards water quality and production potential. One existing well near the west side of the Village limits has been shut down because of nitrates in the water. The water supply system is currently stressed, and new components are planned and under construction. The fact that all new municipal wells in the Village will be located on the east side of the river presents a problem getting water to the west side of the Village, especially at present, when only two undersized water mains cross the river. In order to ensure the west side of the Village and the new

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**FIGURE 11-2**  
**FUTURE WATER**  
**DISTRIBUTION SYSTEM**  
**WITHIN THE JOINT PLANNING AREA**  
**2006**



NOT TO SCALE

**LEGEND**

- |  |                             |  |  |
|--|-----------------------------|--|--|
|  | 2" WATER LINE               |  | WATER VALVE                            |
|  | 4" WATER LINE               |  | CHECK VALVE OR PRESSURE REDUCING VALVE |
|  | 6" WATER LINE               |  | HYDRANT                                |
|  | 8" WATER LINE               |  | WELL                                   |
|  | 10" WATER LINE              |  | ELEVATED STORAGE TANK                  |
|  | 12" WATER LINE              |  | BOOSTER STATION                        |
|  | VILLAGE LIMITS              |  | DRY HYDRANT                            |
|  | HIGH PRESSURE DISTRICT      |  |  |
|  | FUTURE WATER LINE           |  |  |
|  | SUGGESTED FUTURE WATER LOOP |  |  |

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water tower get water, a new large diameter water main crossing of the river will need to be constructed. The high pressure districts increase the magnitude of this problem, as the new water tower under construction on the west side of the river is in a high pressure district, and pressure reducing valves are not meant to handle large flows, only relieve small pressure differences in the system. A dedicated line from the east side wells to the west side tower may be the best way to handle the situation.

### **Impact of Projections on Existing System**

The new water mains shown in **Map 11-2** have not been sized; however the Village should plan on upgrading some of the existing system to ensure that all areas of new development are able to draw the water they need through the water mains they connect to. This is especially true of the southwest, where new development will need more than the six inch main that is the smallest existing main in their route to the nearest source. The new 12-inch main being constructed on Bender Road may be the best way to handle this. In the northwest, the 6-inch main extending from Town Center to the north will not be sufficient to handle new developments in that area. The northeast mains may be able to serve the northeast development after the replacement of the water main in Sheridan St. that is under construction, however further study would be needed.

## **Chapter 12**

# **Storm Water Management Plan**



The Village of Middleville contains a typical mix of old and new storm drainage systems. The traditional block pattern of the original Village plat required closed drain facilities, as that pattern left no surface areas for collection of storm water. Newer neighborhoods such as Misty Ridge and Rolling Oaks sub-divisions, use combination systems incorporating catch basins, man-holes, closed pipes and surface detention or retention basins. The newer systems result in storm water recharging groundwater whereas the older systems typically discharge directly to surface water, principally the Thornapple River.

Storm drainage facilities serving public areas [*parking lots, streets, etc.*] and private areas represent significant capital investment. Storm drainage facilities that are improperly designed or installed create significant long lasting problems. Flooding of land or buildings is an obvious result. Less obvious is the impact on the natural environment such as wildlife habitats and surface waters. Storm water runoff from vehicle parking areas, gasoline stations or industrial outdoor storage areas often carries with it hydrocarbons, oils, chemicals or other compounds toxic to wildlife or which cause degradation of surface water quality. Storm water also carries sediment, pesticides, heavy metals and pet waste to name a few other substances. Absent mechanisms to reduce or eliminate these substances from storm water, ecosystems and water quality are significantly impaired.

The Federal Clean Water Act mandates point and non-point source control of storm water. Given the high initial cost and need to design and build systems that are compatible with the natural environment, this chapter discusses in-place storm drainage systems within the Village, existing problem areas, proposed storm water policies and offers standards representing so called "*best storm water management practices*" to be implemented within the Village and Joint Planning Area.

**Did You Know?**

*Oil and grease are washed off parking lots during rainfall and snowmelt and end up in storm drains and the Thornapple River. Water quality in the river is adversely impacted.*

*It is illegal to discard items such as anti-freeze, motor oil, paint, solvent, fuel, RV septage or concrete wash into a storm drain.*

*The Village sanitary sewers that collect wastewater from homes and business are not connected to storm drains.*

*Storm water in closed pipes is not treated and flows into the Thornapple River.*

A network of predominantly closed storm drains serves the Village. This is a network of manholes, curb inlets, pipes and outfalls all designed to collect, carry and discharge rain water. **Map 12-1** is a map depicting existing storm drain facilities within the Village.

Many of the older neighborhoods within the Village have limited storm drain service or very little data is available from construction records.

It is recommended that during the 2007/2008 period, a complete field inventory of existing closed storm drainage facilities for areas within the Original Plat of the Village, the A.D. Babcock Addition, the Downs Subdivision, and other older areas within the Village along with all major and local streets be done.

Invert elevations at structures, line size and flow line direction, physical conditions and catch basin locations/conditions would be determined with this fieldwork. Moreover, existing drainage easements of record should be documented and mapped. This composite information about existing storm drain facilities and conditions would then form the basis for future capital improvements programming by the Village.

**Locations with potential storm drain issues**

As stated earlier, many older neighborhoods within the Village have little in the way of storm drainage facilities. Other areas may be poorly designed, poorly built or are in poor condition due to age. **Map 12-2** provides an indication of these areas, though each area needs to be evaluated in detail during the recommended fieldwork. Generally, these areas include portions of old downtown, the area between East Main Street and Washington Street, the area



between West Main Street and State Street east of M-37, the area west of Arlington Street between West Main Street and Edwards, the Downs Subdivision and small areas along East Main Street.

### **Best Management Practices for Storm Drainage Facilities in the Village and Joint Planning Area**

The Federal Clean Water Act standards for point [*specific point of water discharge*] and non-point sources of pollution [*areas in a watershed generally draining to surface water*] apply nationally to communities and places having resident population in excess of 10,000 people. As of December 2005, the estimated total area population was about 8,000 persons. If current 2000-2005 population trends continue, the Village/Township population will approach 10,000 people within a year or two of the Census 2010. The area will then need to initiate measures bringing it into compliance with provisions of the Federal Clean Water Act.

The Best Management Practices included in this chapter are intended to form the initial steps toward compliance.

### **Private Land Development within the Village and Joint Planning Area**

Land development involves additional roof area, streets, parking areas and drives. These new impervious surfaces cause storm water run off during rainfall events and snowmelt. The best practices included here are intended to address environmentally friendly management of storm water, protect wetlands and surface waters and promote groundwater recharge in all new development areas. With these practices, storm water would not leave a site unless it receives some form of biological or mechanical treatment.

### **Residential Land Development**

The preferred method of managing storm water runoff in new residential developments is to direct storm water to open, grassed swales and from the swale to a retention facility designed to accept all storm water and permit the water to percolate into the ground. Where land is insufficient or when landform does not lend itself to use this method, storm water detention should be required prior to discharge of storm water off-site.

Best Management Practices [BMP] for all forms of residential development should include the following:

#### ***BMPs for Residential Land Development***

*Retention of storm water generated on the development site will be given preference when reviewing site development plans, thus encouraging groundwater recharge or establishment of permanent surface water features.*

*The full array of so-called bio-retention techniques will be required for storm water management in whole or in part for each residential development site.*

*Closed pipe storm drains within public streets will be allowed so long as the point of discharge [a detention or retention basin] has sufficient capacity to retain or detain storm water flows for a 50-year storm event. Closed drains can also be used to address potential impoundment of water near homes or in rear yard areas based on site grade conditions.*

*For all residential development, release of storm water from the development site will be permitted but will be limited to the pre-development rate of discharge.*

*A storm event frequency of 50 years will be used for all residential development site storm water engineering.*

### ***BMPs for Commercial/Industrial and other non-Residential Development Sites***

*Storm water generated by surface parking lots, fueling areas and outdoor areas used for equipment parking or materials storage will be collected at a central point on site. At that point, silt, grease, oil, other hydrocarbons and industrial solvents will be removed prior to discharge onto land, surface water or into a closed storm drain.*

*Pre-discharge treatment of storm water for such areas may employ any generally accepted technology such as sand filters, mechanical removal, settling basins and so on.*

*The site plan review of these development sites will include consideration of long-term maintenance of the storm water treatment facility.*

### ***BMPs for Special Situations***

It is acknowledged there are special landform and environmental situations requiring unique approaches to storm water management. Whenever these situations arise, it will be necessary to consider alternative BMPs for these sites. The special situations to be considered include:

*Land areas with slopes in excess of a 10 percent slope.*

*Land areas that include or are abutting regulated wetlands [i.e., contiguous wetlands in excess of five acres are regulated wetlands].*

*Land areas that are within or directly abut an established 100-year flood plain as established by the Michigan Department of Environmental Quality.*

For each of these special situations, the objective when using alternative BMPs, will be to protect the existing, natural environment from direct discharge of storm water into these areas.



# VILLAGE OF MIDDLEVILLE

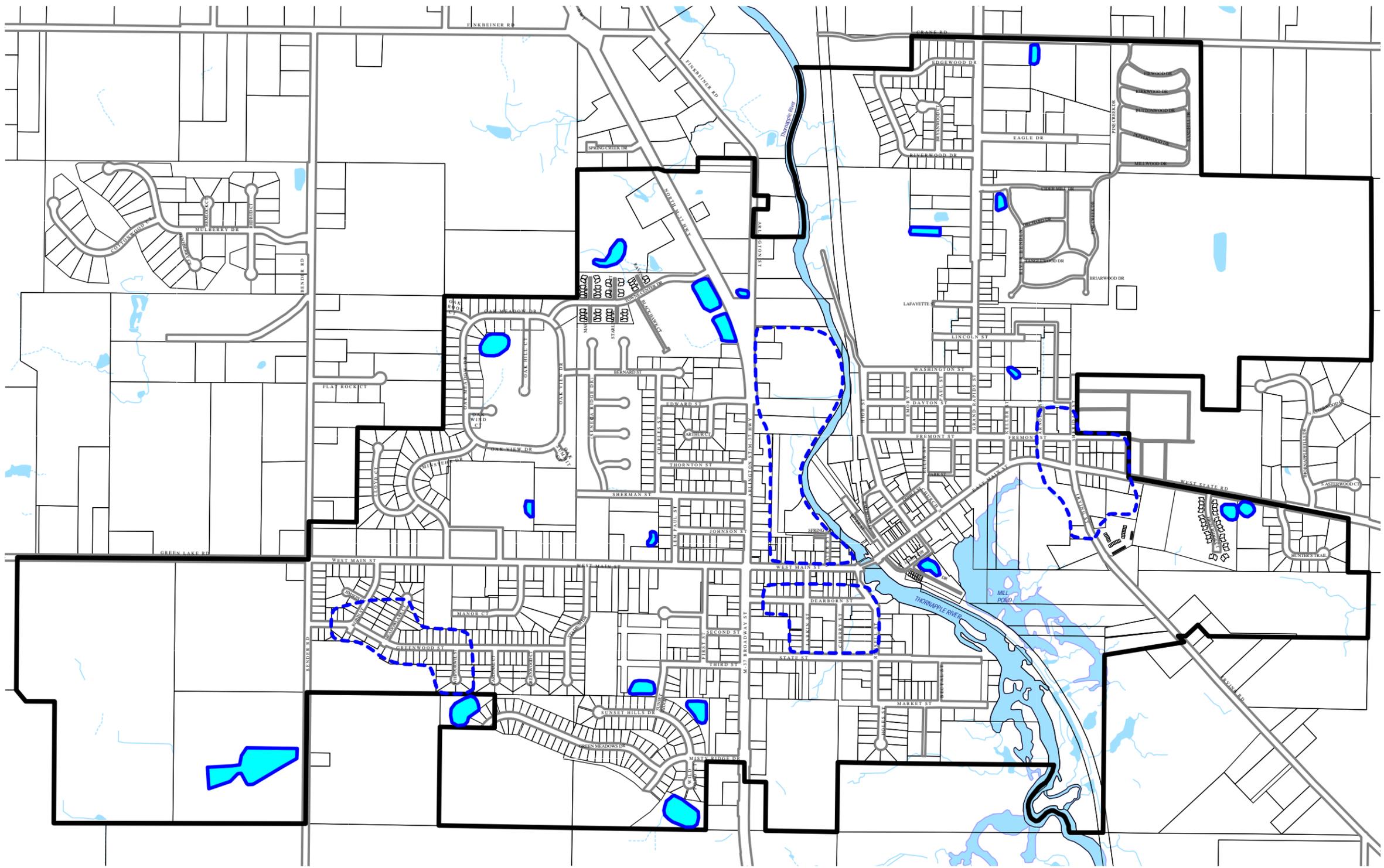
BARRY COUNTY



## Map 12-2

### Storm Sewer Issues & Problems

-  Areas Requiring Storm Sewer Investigation
-  Storm Water Detention Basin



SCALE 1:1200

BARRY COUNTY LAND  
INFORMATION SERVICE  
MAY 2007

SOURCE: VILLAGE OF MIDDLEVILLE 2006

### **Chapter Thirteen**

## **Natural Areas, Parkland and Pedestrian Facilities Plan**



Natural open spaces, parklands and pedestrian ways enhance quality of life for all residents. These spaces offer people a variety of leisure time activities. They also help form and shape the community as it grows and help create balance between man-made and natural environments. The extent and quality of these spaces form an important aspect of perceived “*community character*”. Important natural areas within the community should be preserved by placing them in the public trust. These natural areas include all lands along the Thornapple River, wetlands and scenic areas.

Middleville is blessed with abundance of natural areas. The Thornapple River runs through the Village, flowing from south to north. The riverbanks offer several miles of scenic relief for residents. The river and shore lands form the most important natural resource within the Village. All effort should be put forth to acquire these shore lands in the Village and similar nearby areas within Thornapple Township. This will foster public access, use and enjoyment of the river. All improvements to facilitate public access and use should be done in a manner that fully respects the natural setting.

As population growth occurs in Middleville and immediate areas, these public spaces become ever more important. Both mature and evolving neighborhoods require integral open spaces and sidewalks or similar pedestrian facilities. Some neighborhoods are currently served well while others are not. Moreover, in neighborhoods yet to come, the Village must insist they be planned and served with similar facilities. Public school grounds in some neighborhoods provide open space and outdoor play areas.

A balanced approach to planning open spaces, active recreation and pedestrian facilities is needed. This means the plan for these facilities must be comprehensive, including facilities accommodating the needs of all age groups and seasons. Planning for improvements to active recreation facilities and programs for the area is the responsibility of the Thornapple Area Parks and Recreation Commission (TAPRC), an organization created by the Village, Thornapple Township and the Thornapple Kellogg Public School District. This group has recently completed a 2006-2010 Community Recreation Plan for submittal to the Michigan Department of Natural Resources. That plan contains a complete inventory of existing facilities serving the area. The intent of this Master Plan element of the Village Master Plan is not to reproduce the 5-year TAPRC community recreation plan; rather it is to consider long-range needs in all areas of the Village and within the Joint Planning Area [JPA].

**Map 13-1** presents a view of all lands within the Village and JPA that are currently in public ownership. These lands range from public school sites to cemetery property. Lands depicted on the map are captioned with the present use. Some lands are vacant and are not captioned. In this following narrative, each of these sites is given a brief description and discussion offered regarding potential future use as it relates to open space, park land and/or pedestrian facilities.

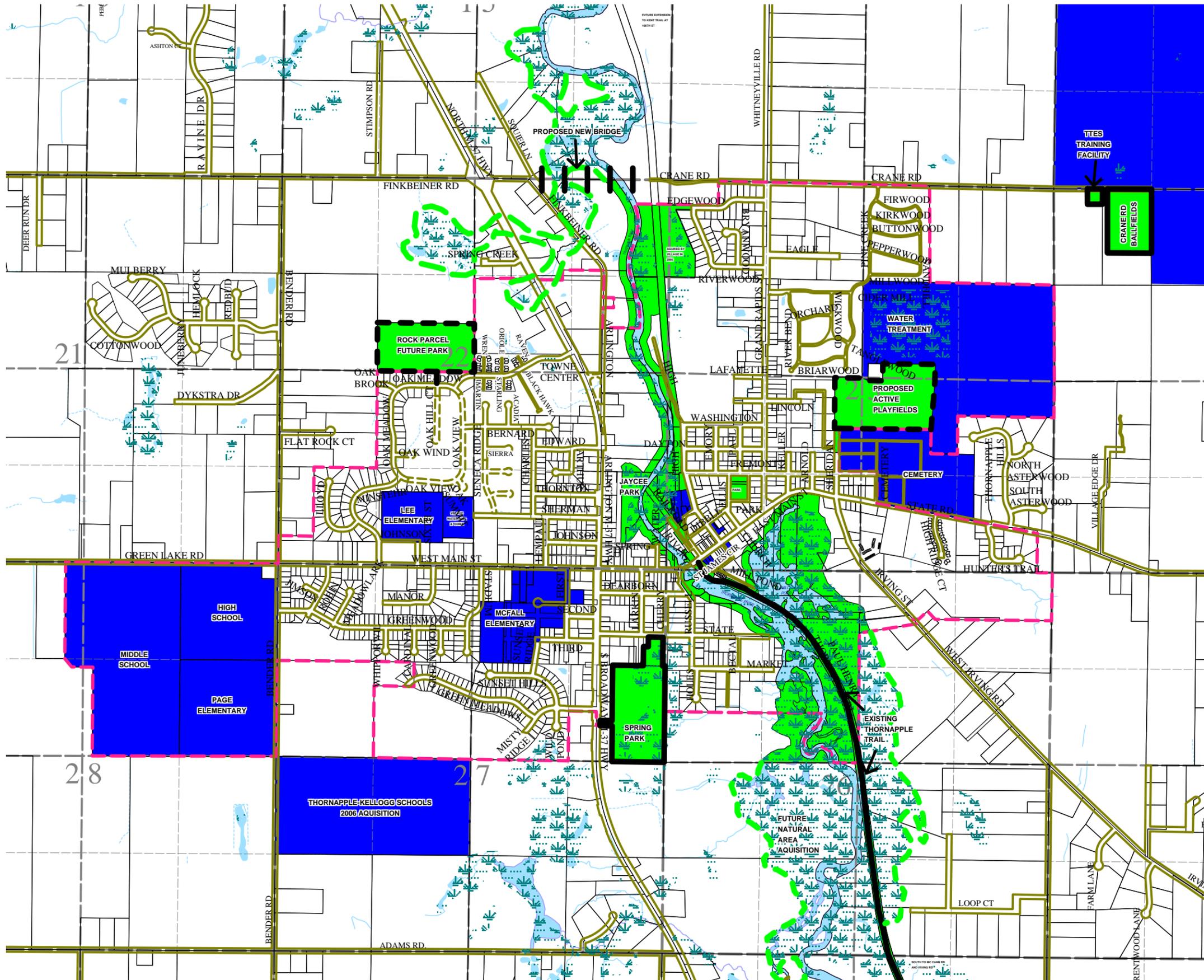


# VILLAGE OF MIDDLEVILLE

BARRY COUNTY, MICHIGAN

**Map 13-1**  
Existing Natural Areas & Public Spaces

- Legend*
- Natural Areas to be preserved
  - Public Parks - active
  - Other Public lands
  - Existing walkways/trails
  - 2007 Village Limit

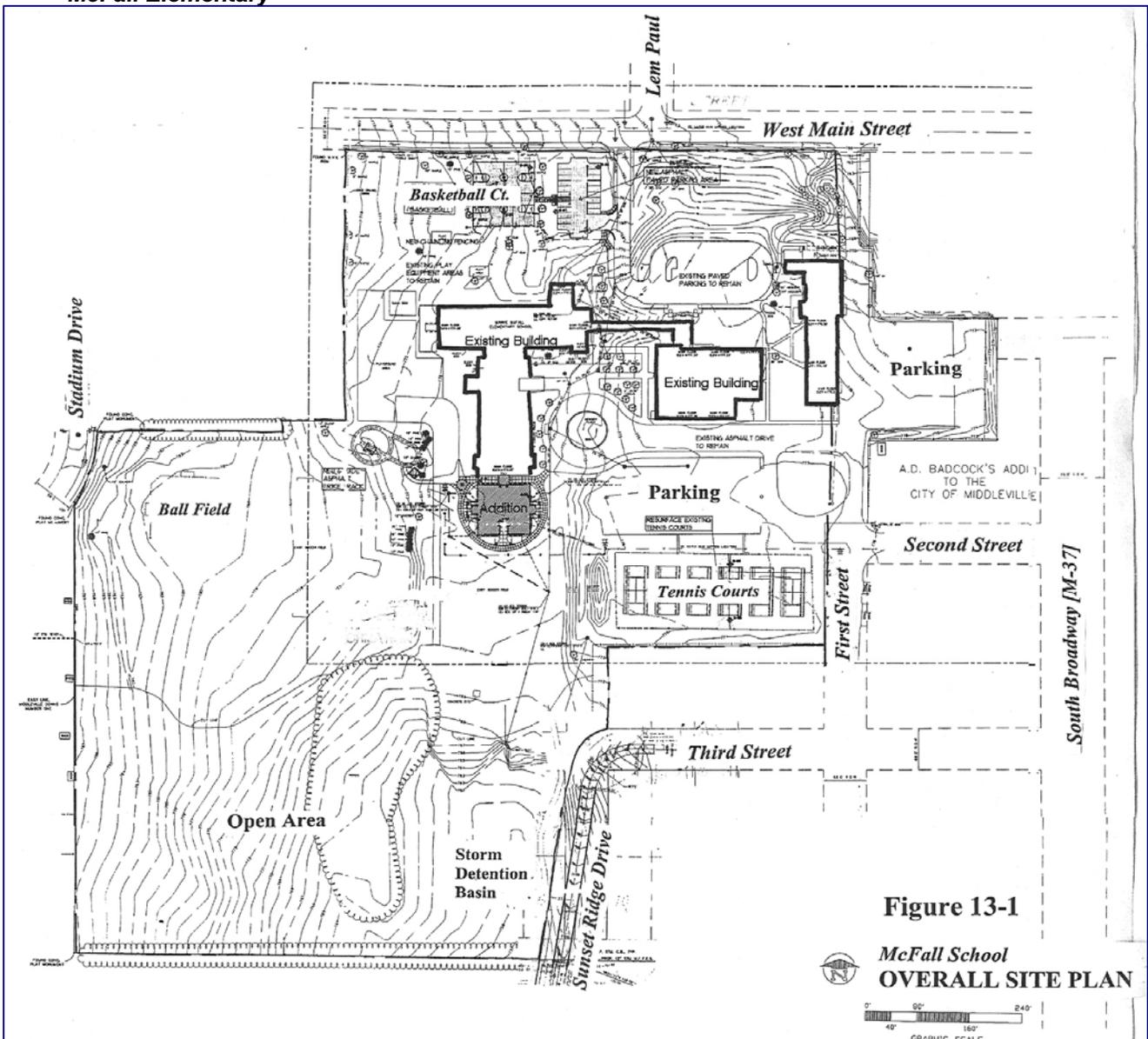


SCALE 1" = 1400FT  
BARRY COUNTY LAND  
INFORMATION SERVICE  
MAY 2007  
SOURCE: VILLAGE OF MIDDLEVILLE

## Public School Lands

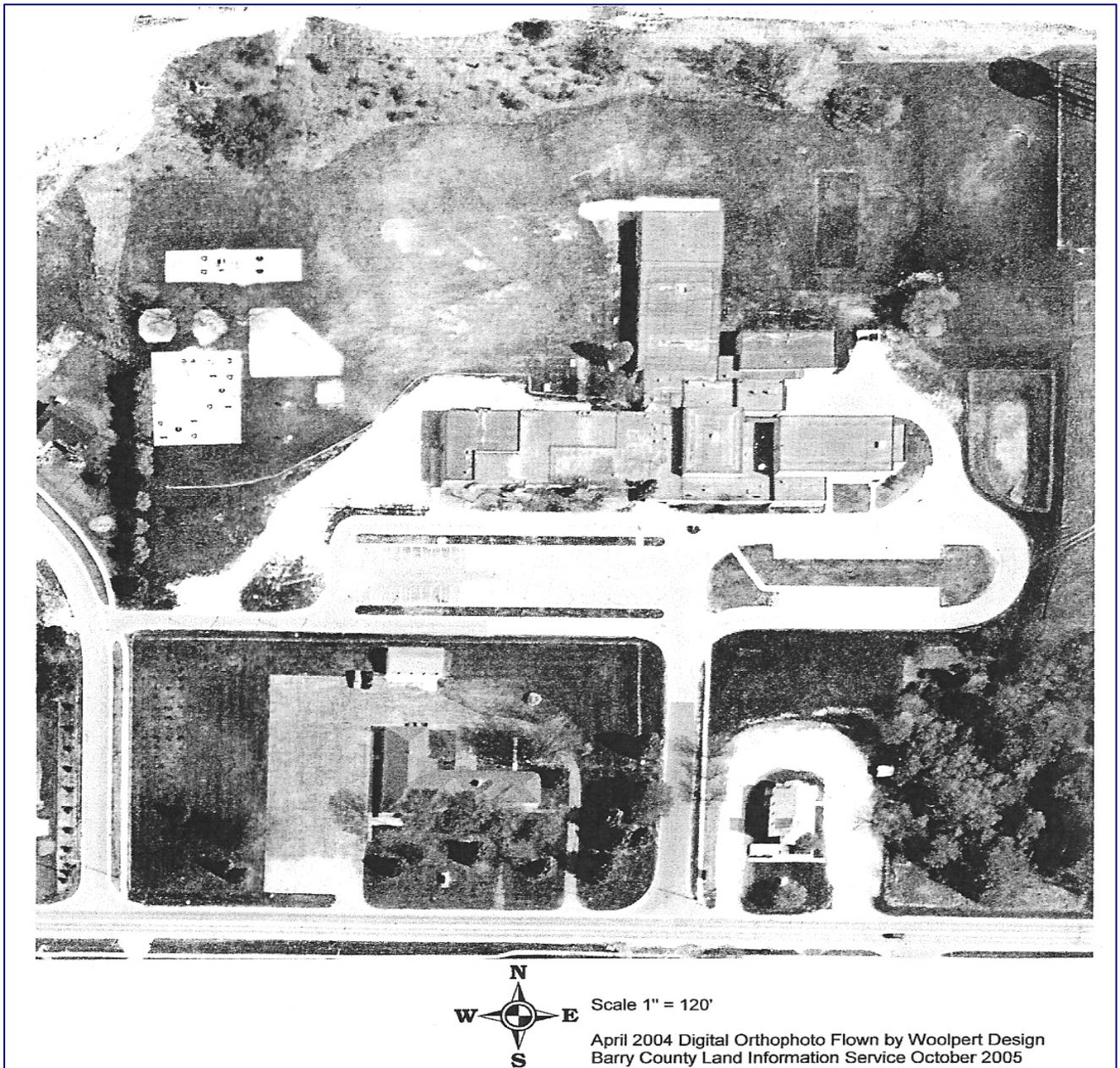
**McFall Elementary School** is located on a 9-acre site along West Main Street. In addition to school buildings, the site offers tennis courts, a large playground and ball field. The south side of the site is currently undeveloped and quite natural. A pedestrian pathway connects the site with the 200 home Misty Ridge Subdivision south of the school property. The south portion of the site could be developed with additional playground/playfield area to serve the two large residential neighborhoods on the south [Misty Ridge] and west [The Downs]. An additional pedestrian link could be extended to Stadium Drive, connecting to the Downs Subdivision. **Figure 13-1** illustrates the existing site with notations.

**Figure 13-1**  
**McFall Elementary**

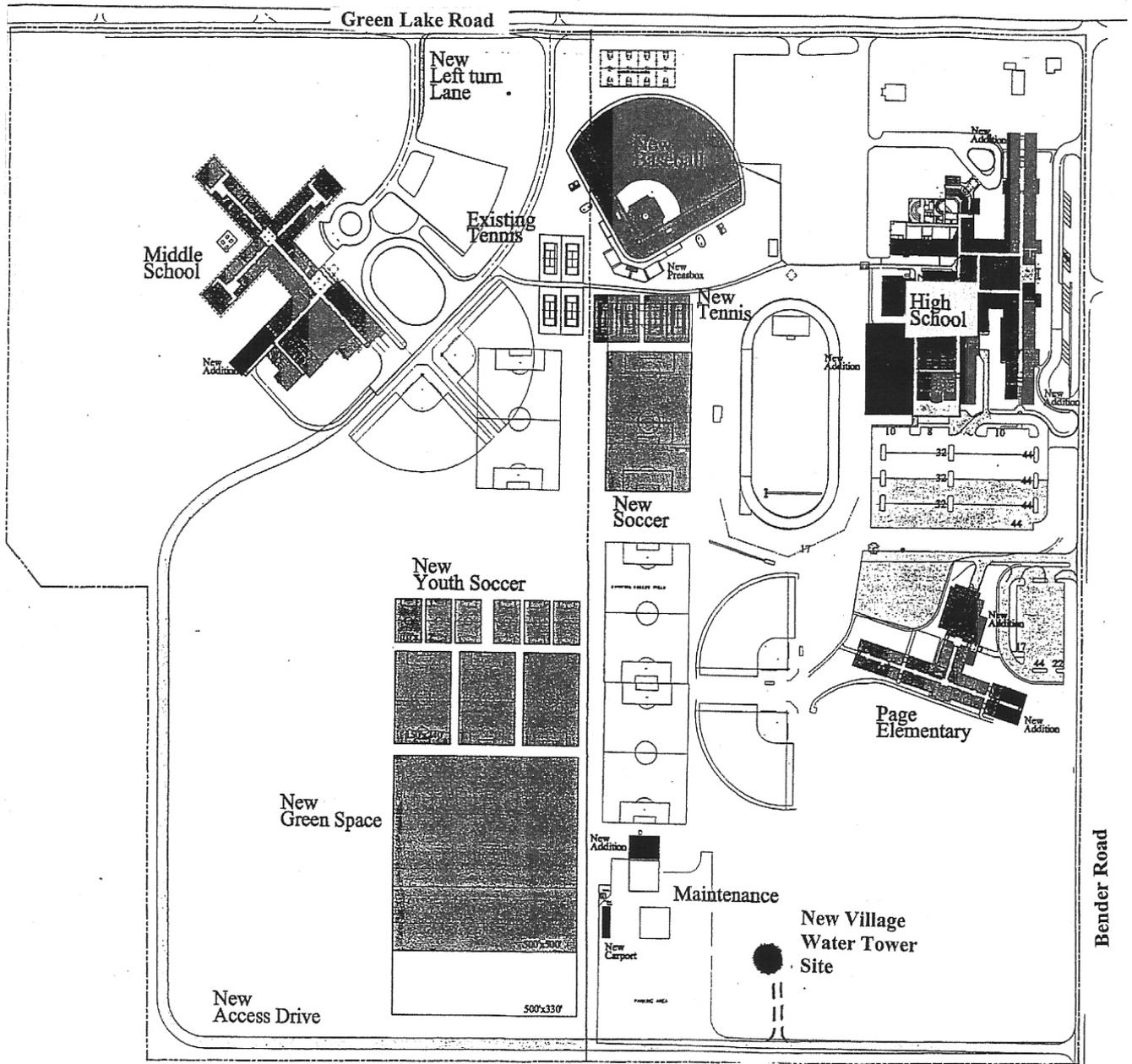


**Lee Elementary School** is located on an 8-acre parcel of land on the north side of West Main Street, just west of Manor Drive. This site is largely occupied. During 2004, play apparatus was added and a new access driveway from Minster Drive was built.

This site serves as a neighborhood playground and playfield for the West Main Street area and the 200 homes Rolling Oaks Subdivision now under development. There is little potential to add significant facilities at this site, though pedestrian access points along the north side of the parcel from Rolling Oaks Subdivision are available. **Figure 13-2** presents an aerial photo of the Lee Elementary School site.



**High School/Middle School/Page Elementary School Complex.** This group of school facilities is located on approximately 158 acres of land. There are numerous active play areas within the complex as well as indoor swimming, gymnasium, fitness and auditorium facilities. Some of these facilities are available for public use. Facilities have recently been extensively upgraded and modernized. **Figure 13-3** depicts this school complex.



## **Village Owned Lands**

### ***Calvin Hill Park***

This park functions as a neighborhood playground. It contains about .6 acres of land and includes a basketball court, play apparatus installed in 2002 and a small playfield area. The park is entirely fenced and bounded by Park, Ellis and Fremont Streets. This facility will continue to function as a neighborhood park.



### ***Spring Park.***

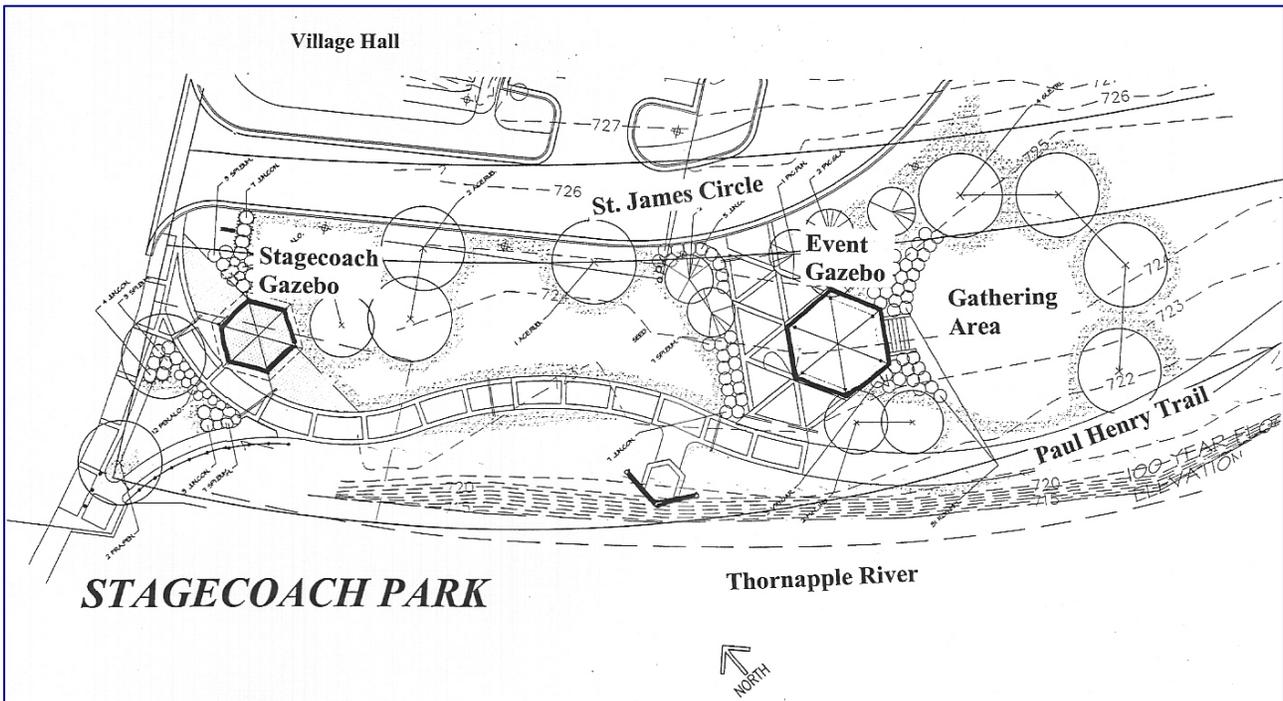
This is the largest park within the Village, containing about 26 acres of land. The park is used for a variety of active and passive recreation activities. Facilities present in the park include a softball field, sand volleyball courts, picnic shelter, picnic area and gravel parking area with access from M-37. In addition, the park includes a rare wetland fen within the northerly 4-5 acres of the park through which extends an elevated boardwalk. **Figure 13-4** depicts the existing Spring Park.



**Stagecoach Park.**

This newest village park along the Thornapple River provides a variety of recreation opportunities. The park serves as the north trailhead for the 5-mile long Paul Henry/Thornapple Trail. It also contains a river overlook, viewing benches, extensive landscaping and two gazebos. The large gazebo serves as the venue for the Riverbank Music Series held for eight weeks each summer. The smaller gazebo provides shelter for the Village's "Good Intent Line" stagecoach. The park also serves as a venue for the Heritage Day event each September. **Figure 13-5** depicts the layout of Stagecoach Park

**Figure 13-5**  
**Stagecoach Park Plan**



***Crane Road ball fields***

The 10-acre site offers three softball ball fields for youth and adult programs as well as unimproved parking. Each field is fully fenced. The Thornapple Area Parks and Recreation Commission and a private softball association maintain this facility. Vandalism has been an on-going issue at this facility, due to its remote location at the extreme east end of Crane Road adjacent to the Middleville State Game Area.

***Riverfront Park***

On the Thornapple River opposite Stagecoach Park, this passive waterfront area offers boat launch, canoe portage and casual picnicking opportunities. It was cleared, graded, and improved by the Thornapple Area Parks and Recreation Commission during 2004 to make the site more accessible. Previously, the site had a steep shoreline, a dense brush overgrowth and difficult boat access. This site is planned for a riverfront boardwalk extending south from Main Street. The boat launch area is marginal due to a lack of vehicle and trailer parking. An alternative boat launch site above the dam should be considered prior to undertaking any additional improvement to accommodate fishing boat access or parking.

***Sesquicentennial Park***

Adjacent to the Middleville dam on Main Street, this “pocket park” is used for passive purposes. It offers excellent location in relation to Downtown. It is a key parcel in the East Bank redevelopment plan. The site is proposed for the relocated Michigan Central Depot, a public plaza, Paul Henry trail extension, scenic river overlook and sections of track displaying railroad artifacts. Land to the north is privately owned and needs to be acquired if the planned park improvement project goes forth.

***“Jaycee” Park***

Located on the west bank of the Thornapple River, this undeveloped 7.7-acre parcel has over 760 feet of river frontage. Natural conditions on this site include extensive ground spring outfalls, wetland, woodland and pockets of upland. The site is very unique. Public use of this site for active recreation activities is not feasible. The optimum use options for the site are (1) a riverfront trail/boardwalk or, (2) transfer ownership of remaining land to a private owner intent on developing adjacent lands for planned high density residential, small footprint building land use. This approach will provide for public river access in perpetuity and permit the balance of the land to be used in density calculations for the private residential development.

***“Rock Parcel” in northwest Area***

During 2005, the Village implemented a land exchange with the Rock family gaining a 20 acre parcel of pasture land north of and adjacent to the Rolling Oaks Subdivision. This parcel has a 60 ft. wide access via roadway easement dedicated with the recorded plat. This property offers rolling landscape, open fields and woodland. Opportunity for active playfields is limited. The Village should retain a park-planning consultant to evaluate future use options for the property and prepare a preliminary park development plan. As housing development continues on adjoining lands, this property will become an important complement to the Villages park system.

***“Spencer Parcel” on West Main Street***

The Village acquired this property during 2005 and demolished the former garage building in 2006. This parcel has dimension of 56 feet by 56 feet. The objective of the Village in this acquisition and removal was to eliminate an eyesore along Main Street. The Middleville Downtown Development Authority is in the process of preparing a streetscape plan for all of Main Street. This parcel should be included in the streetscape design. The objectives would be to enhance the visual appearance of this corner parcel with colorful landscaping and also provide a welcoming image along the gateway to downtown.

***Wastewater Treatment Plant Site***

The Village owns about 105 (acres) of land attendant to the Wastewater Treatment Plant [WWTP]. Of this entire parcel, the WWTP, finishing pond and infiltration basins occupy about 40 acres. The remaining portions of the property include 25 acres of open field between the WWTP and Sheridan Roads [formerly used for wastewater spray irrigation but no longer in use] and about 40 acres east of the WWTP in open fields and woodland.

The 25 acre parcel would be an excellent, easy access location for active playfields such as youth soccer or recreation softball complex or a combination of both uses. This area has been overlooked for such uses due to concern about soil contamination stemming from the former use of the site. However, a series of surface soil sample testings across the parcel will reveal whether or not there is cause for any concern. If not, this site represents a very cost effective location for such recreation facilities.

***Riverfront Parcel west of Bryanwood Estates***

The Village acquired this 16-acre parcel in 2006 for a municipal water well field. The parcel has about 1000 feet of frontage along the Thornapple River as well as 900 feet more or less of former Michigan Central Railroad right of way. This right of way represents a potential extension of the Paul Henry Trail. The parcel has significant presence of upland wetlands and spring activity. As such, it offers little potential for active playfields. However, the value of this property lies with the

exceptional views of the Thornapple River. The landform adjacent to the river rises significantly offering many locations at which to view the river. When the Paul Henry Trail is extended across this property, the trail plan should include two or more trail “legs” to observation areas on the hillside above the river. Walkways connecting this parcel to sidewalks in Bryanwood Subdivision should be included in the trail plan or site plan for this property.

**Village-Owned Riverfront Property  
West of Bryanwood Estates**



## **Township Owned Lands**

### **Riverfront land adjacent to the Thornapple Township Emergency Services Building**

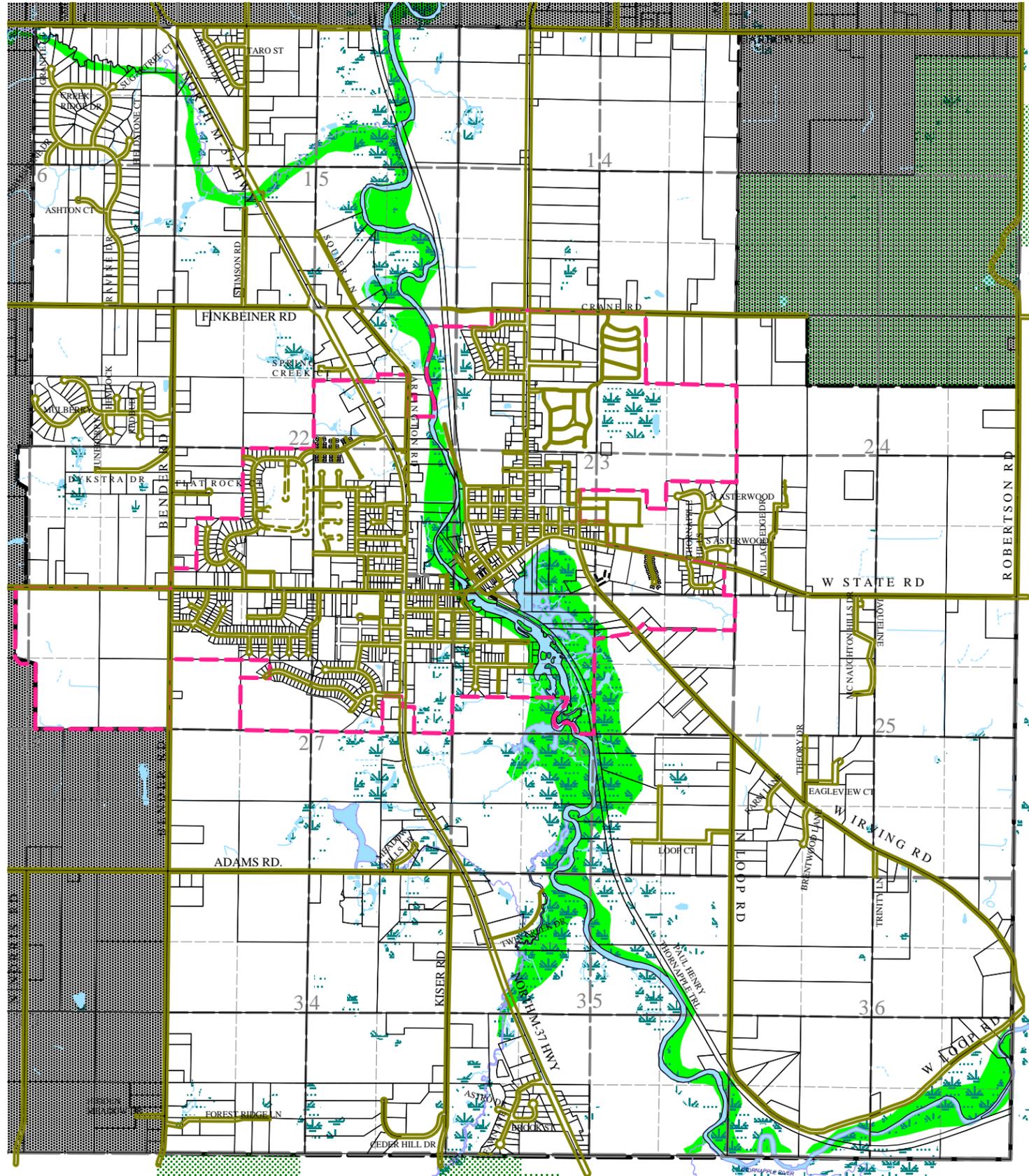
During 2003, Thornapple Township acquired this 12-acre parcel, including an estimated 1350 feet of shore land along the Thornapple River. The Emergency Service building and attendant parking occupy about two acres of the total site. The remaining land area is not intended for use by the emergency services and could be put into alternate uses. This parcel also includes the former Michigan Central Railroad right of way.

A good deal of the parcel is wooded and has wetland. However, this land represents a valuable resource for a mix of active and passive recreation pursuits.

### **Natural Areas to be Preserved . . .**

**Map 13-2** depicts identified natural areas in the Village, JPA and Township, largely along the Thornapple River that need to be preserved. As areas adjoining these lands are proposed for development, regulatory provisions should be in place which can afford opportunity for public ownership or for private restrictions that permanently preserve these areas from man-made use and encroachments.

Traditional practices on lands with sensitive natural features have ignored such features. Whenever land development is proposed in areas shown on **Map 13-2**, plan review should include rigorous measures to protect and preserve sensitive natural features.



# JOINT PLANNING AREA

THORNAPPLE TOWNSHIP  
VILLAGE OF MIDDLEVILLE  
BARRY COUNTY



## MAP 13-2

### EXISTING NATURAL AREAS TO BE PRESERVED

#### Legend:

-  Wetlands
-  Riverfront Open Space
-  Joint Planning Area
-  2006 Village Limit



SCALE 1" = 2400'  
BARRY COUNTY LAND  
INFORMATION SERVICE  
NOVEMBER 2006

SOURCE: THORNAPPLE TOWNSHIP & VILLAGE OF MIDDLEVILLE 2006

## Pedestrian Facilities



Given the emphasis on active lifestyles since the millennium, municipal facilities offering opportunity for people to walk, jog, ride bicycles, inline skate and cross-county ski have gained in popularity and importance.

The Village has an extensive network of sidewalks in newer neighborhoods and an irregular network within older neighborhoods. The Village Council has given sidewalk improvement added priority during the past years. Much remains to be done. Priority of expenditure has been to (1) repair poor sections of existing sidewalk, (2) in-fill missing sidewalk segments and (3) construct new segments of sidewalks where none previously existed.

Sidewalks in the Village vary as to condition, depending on age and local physical conditions such as drainage and proximity to large trees. **Map 13-3** depicts existing sidewalk locations and condition throughout the Village. Data shown on this map is based on a detailed 2004 survey of sidewalk location and condition, updated to reflect sidewalk construction since the date of the survey. As can be seen, there are many locales in the Village lacking sidewalk service. Moreover, in several areas existing sidewalks lack continuity.

Since the year 2000, the Village has used a 60-inch wide sidewalk standard for all new and replacement sidewalk with a four-inch thickness. Segments crossing driveways have a six-inch thickness.

The basic objective for sidewalks in the Village is to serve all homes and apartment sites with sidewalks. This will require a long term, consistent program by the Village committing funds to sidewalk replacement and improvement. Whenever a major or local street in the Village is reconstructed and there are no existing sidewalks, the reconstruction project should include installation of sidewalks.

# VILLAGE OF MIDDLEVILLE

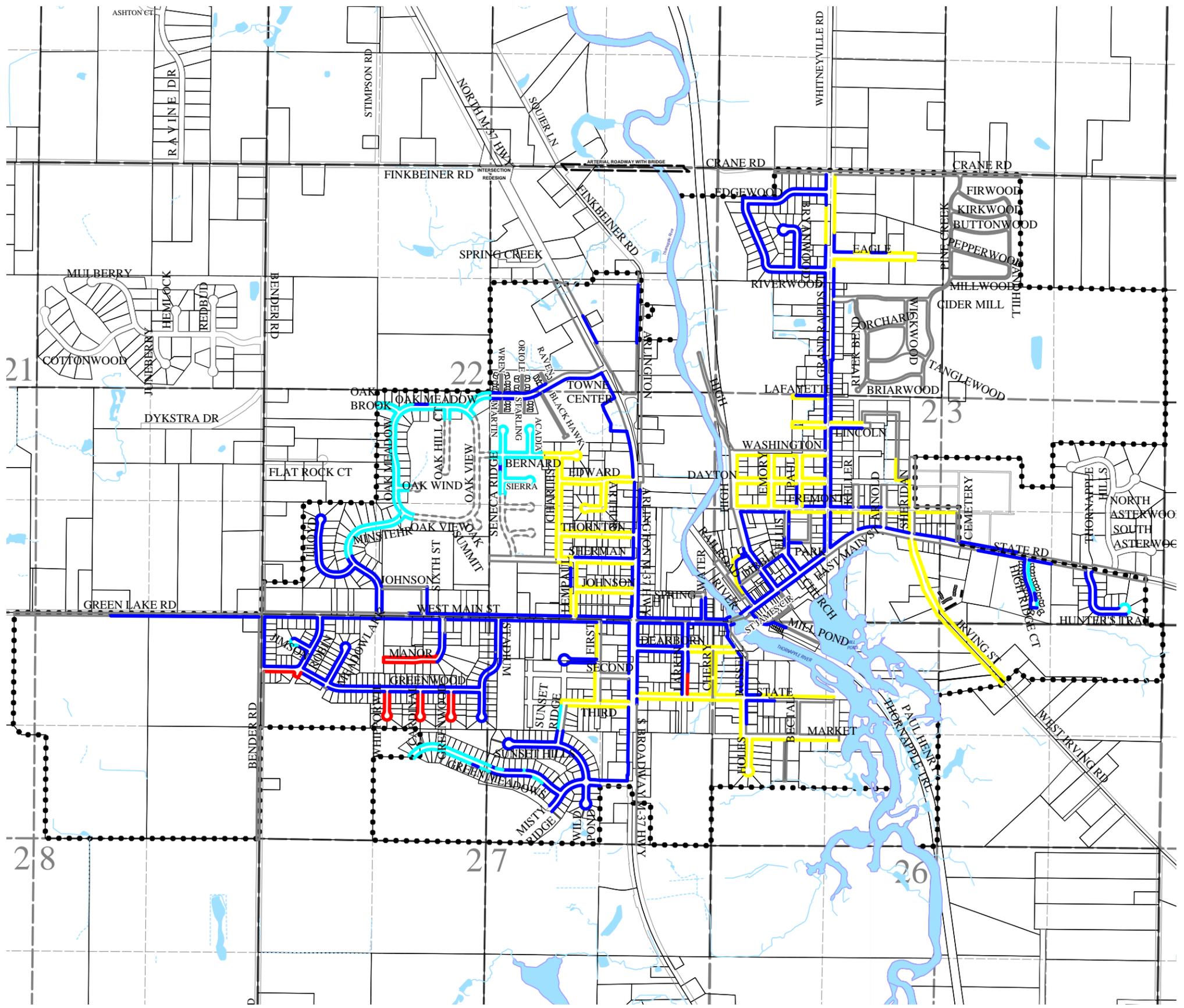
BARRY COUNTY, MICHIGAN



**Map 13-3**  
**Existing Sidewalks**

Legend:

- Infill Missing Segment - Village Project
- New Sidewalk - Village Project
- Existing Sidewalk (Summer 2005)
- No Sidewalk
- Planned Road



SCALE 1:15000  
BARRY COUNTY LAND  
INFORMATION SERVICE

SOURCE: VILLAGE OF MIDDLEVILLE  
OCTOBER 2006

# VILLAGE OF MIDDLEVILLE

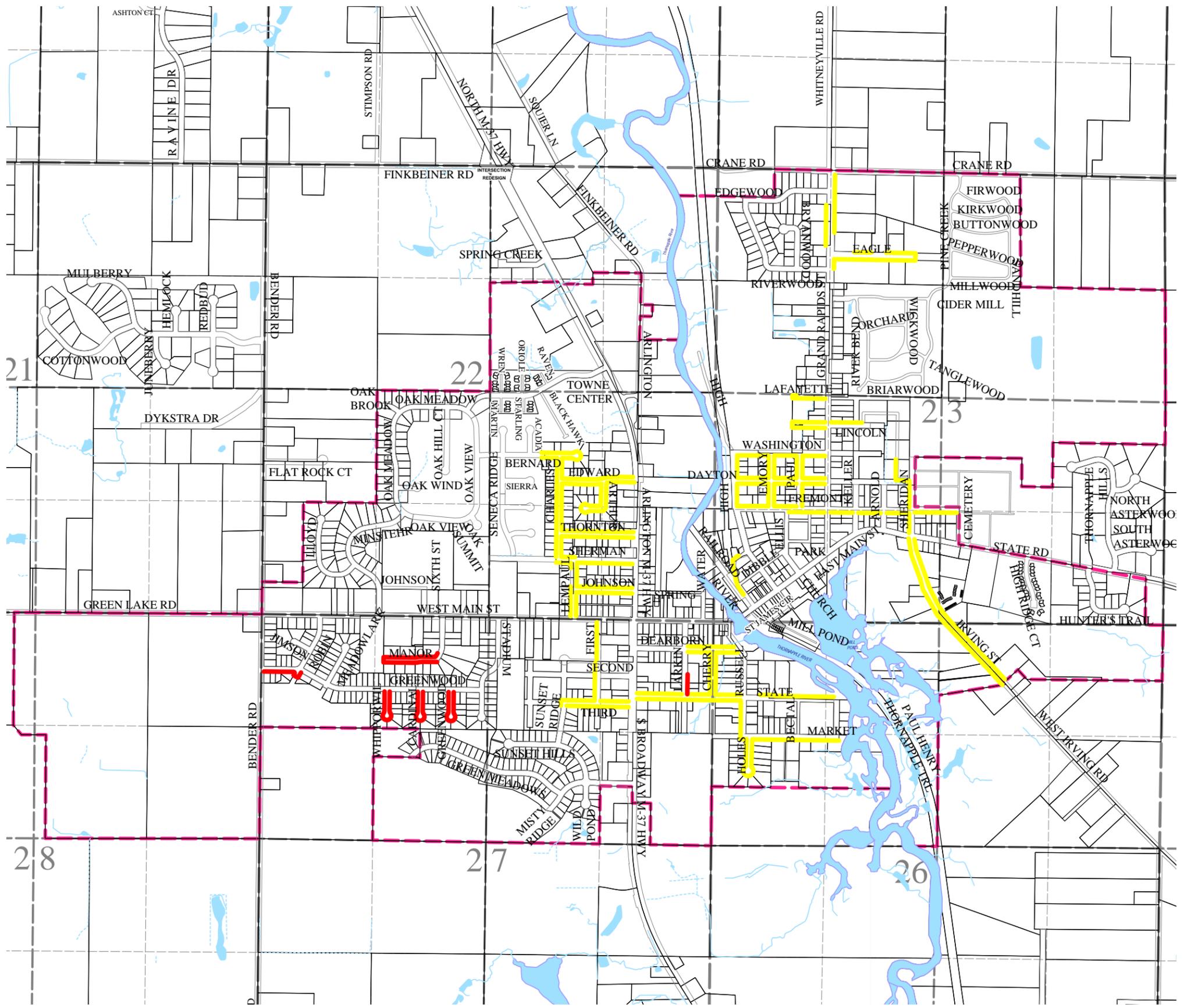
BARRY COUNTY, MICHIGAN



## MAP 13-4 SIDEWALK IMPROVEMENTS

Legend:

-  Infill Missing Segment
-  New Sidewalk



SCALE 1:15000  
BARRY COUNTY LAND  
INFORMATION SERVICE

SOURCE: VILLAGE OF MIDDLEVILLE  
OCTOBER 2006

**Map 13-4** is a sidewalk improvement plan depicting areas in which sidewalk improvements should be made throughout the Village. Emphasis is placed on the older neighborhoods that currently lack sidewalks and area where segments of sidewalks are missing,

The Village, since 2000 has also improved a 3.5-mile segment of the planned Paul Henry Trail. This segment includes a 10 ft. wide paved cross-section. The Village maintains this trail.

### **“Complete Streets”**

This Plan supports complete streets policy. Complete streets are thoroughfares that are planned, designed and constructed to allow access to all legal users safely and efficiently, without any one user taking priority over another. Users in Middleville include pedestrians, bicyclists, motorists, users of assistive devices, and truck-drivers. Complete streets can result in increased safety for non-motorized users, improved public health, a cleaner environment, mobility equity and enhanced quality of life through increased modal choices and more inviting streets. The popularity of the Paul Henry Thornapple Trail in the community further reinforces the need for policy.

Another key motivation to enact complete streets policies is that Michigan law may encourage MDOT to give additional consideration to enhancement and other grant applicants with such policies. The Michigan Planning Enabling Act has also been amended to stipulate that transportation improvements be respectful of the surrounding context, further ensuring that more equitable and attractive streets become reality.

### **Multi-Use Trails**

The Village Master Plan includes an area of more intensive land development that is now called the Joint Planning Area *[JPA]*. It is within this area that the Planning Commission concludes pedestrian facilities are necessary. All forms of land development within the JPA hereafter will be required to incorporate pedestrian facilities in various forms.

Within the outlying areas, a multiple use trail system is planned. Land development next to or near these trail routes should include direct connections to the established or planned trail.

### **Trail History and Local Efforts for Trail Development**

The Middleville/Thornapple community once had railroad service *[see Chapter 2 for details]*. The railroad was finally discontinued during the 1970s. Based on

changes to Federal and State law, railroad companies gained title to all formerly used railroad right-of-way. During the 1990's, the railroad companies sold off unused right-of-ways to abutting land owners and others.

During the 1995-2000 period, the Village of Middleville acquired, by court decree, several segments of former right-of-way extending 5 miles south along the Thornapple River from Main Street in Downtown. In 2001, the Village developed 3.5 miles of this trail with a 10 ft. wide paved pathway. The remaining 1.5 miles between McCann Road and Irving Road is unpaved. During 2006, the Village constructed a new trail segment east from Grand Rapids Street along Crane Road, a distance of 900 feet. The ultimate objective is to connect the Paul Henry Trail with the Middleville State Game Area. This future trail segment will also incorporate the North County Trail.

### **Planned Major Trail Routes**

**Map 13-5** depicts existing and proposed future trail routes for the Township, including the area within the Village of Middleville. The major routes will be northward extension of the Paul Henry-Thornapple Trail from Main Street within the Village to 108<sup>th</sup> Street, a distance of about 4.2 miles. This proposed segment would link with the existing 3.5 mile trail and a trail to be built in Caledonia Township south to 108<sup>th</sup> Street, thereby creating a trail system connection within the Kent County regional trail system.

A second trail connection is shown running east from the Paul Henry Trail along Crane Road to the Middleville State Game Area. This 1-mile trail segment would link the main trail with the State Game Area. Moreover, the national North County Hiking Trail now shares right-of-way with the existing 3.5 mile segment of the Paul Henry Trail. When the Paul Henry is extended north to Crane Road, the North County Trail will be re-routed to follow the new trail to Crane Road and then turn eastward along the Crane Road Trail.

A group is currently working on extension of the Paul Henry-Thornapple Trail through Barry County to the City of Hastings and beyond. The ultimate success of this effort is unknown at this time, as an initiative to involve other local governments in trail funding and sponsorship is being discussed.

### **Future Land Development and Pedestrian Links**

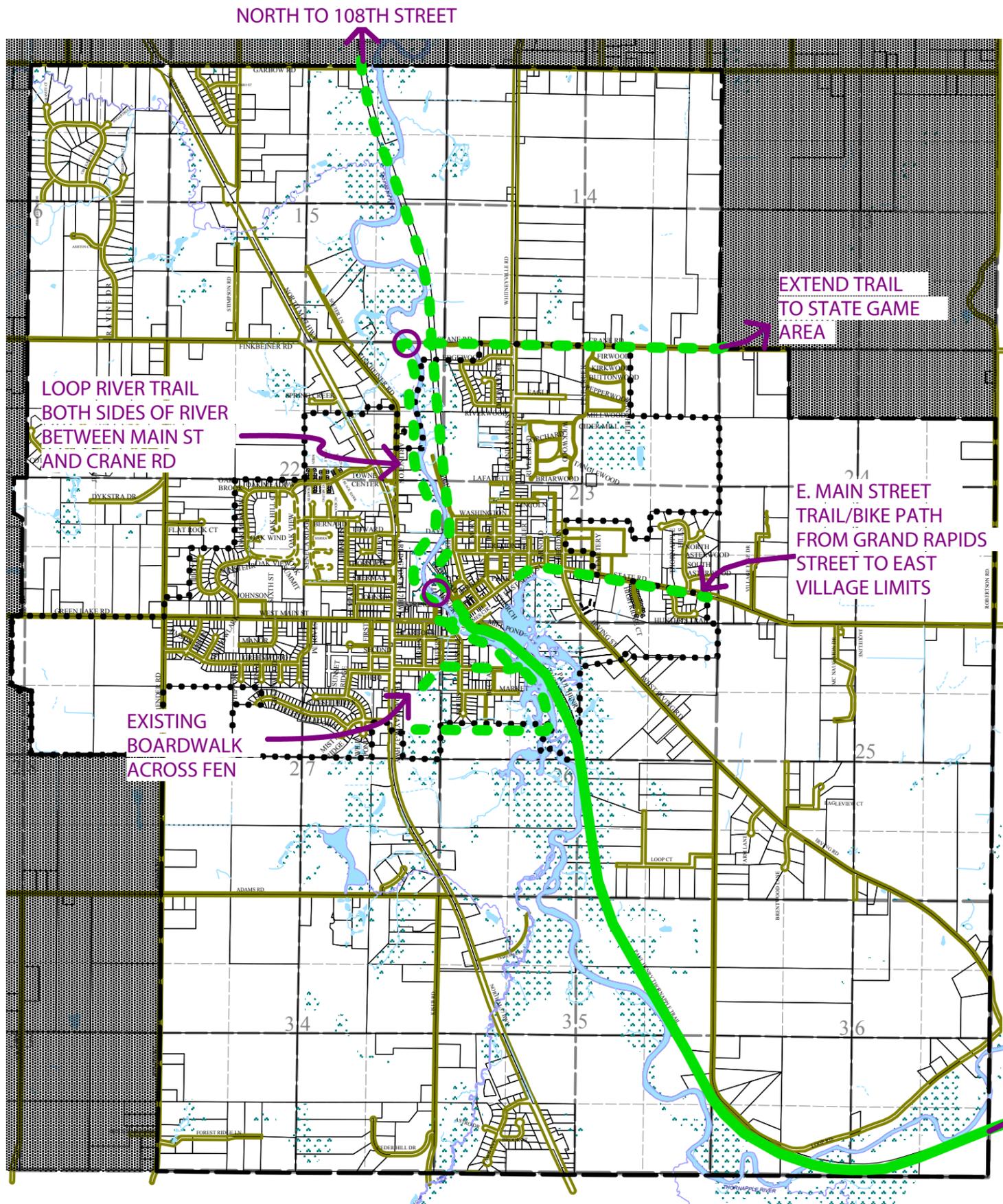
Once the major trails are developed, existing and new neighborhoods within the Village and Township should be afforded pedestrian links with the main trail network, fostering walking and healthy life experience.

Within the Joint Planning Area, trail links are shown on **Map 13-5** extending south from Crane Road along the "west bank" of the Thornapple River to Main Street. This will form a 2-mile "loop trail" along the Thornapple River, providing a

comparable, easy walking tour within a very scenic area. Another trail loop is shown extending east from Downtown along Main Street/West State Road into Section 24, turning south to Irving Road and then turning to the West along Irving Road back to Main Street. This too, offers a scenic route.

Discussion has occurred regarding participation in the safe-routes-to-school program. If implemented, connecting these pedestrian routes with the established trail system would be beneficial.

Future trail links with new residential developments, commercial nodes or employment centers near or adjoining the trail routes, should become a mandatory standard, particularly within the Joint Planning Area [JPA].



# JOINT PLANNING AREA

THORNAPPLE TOWNSHIP  
 VILLAGE OF MIDDLEVILLE  
 BARRY COUNTY



*MAP 13-5*

*MULTI USE TRAIL PLAN*

*Legend:*

- Existing Trail
- - - Future Trail
- Pedestrian Bridge River Crossing



SCALE 1" = 2400'  
 BARRY COUNTY LAND  
 INFORMATION SERVICE  
 MAY 2007

SOURCE: THORNAPPLE TOWNSHIP & VILLAGE OF MIDDLEVILLE 2006

## Chapter 14

# PUBLIC STREETS PLAN



The Village of Middleville owns, builds and maintains 15.59 miles of public streets. Included in the total are 5.5 miles of major streets and 10.09 miles of local streets.

Major streets include East and West Main, Grand Rapids, State, Irving and Town Center Drive. All other streets are classified as local. **Map 14-1** depicts the existing major and local street network within the Village. The Village, since the year 2000, has reconstructed 2.4 miles of major streets and reconstructed or resurfaced 3.8 miles of local streets. The aggressive street improvement effort has resulted in great improvement of the overall condition of the Village street system.

The growth experienced by the Village during the 2000-2006 period has added an estimated 2.7 miles to the local street system, representing a 27% increase in total local street mileage. These street additions are largely a result of new subdivision development and have been paid for by developers of these projects.

The Village receives annual "Act 51" gasoline tax revenues. This money is dedicated to winter and summer maintenance of all major and local streets. These revenues allow regular maintenance of streets but are insufficient to meet major maintenance [resurfacing] or reconstruction needs. As such, each year the Village Council uses money from the Village's general fund to pay for necessary street improvements.

As development continues in the Village and environs, the need for collector type streets will be evident. A collector street functions to "collect" traffic from local residential streets and carry that traffic to major streets and highways.

# VILLAGE OF MIDDLEVILLE

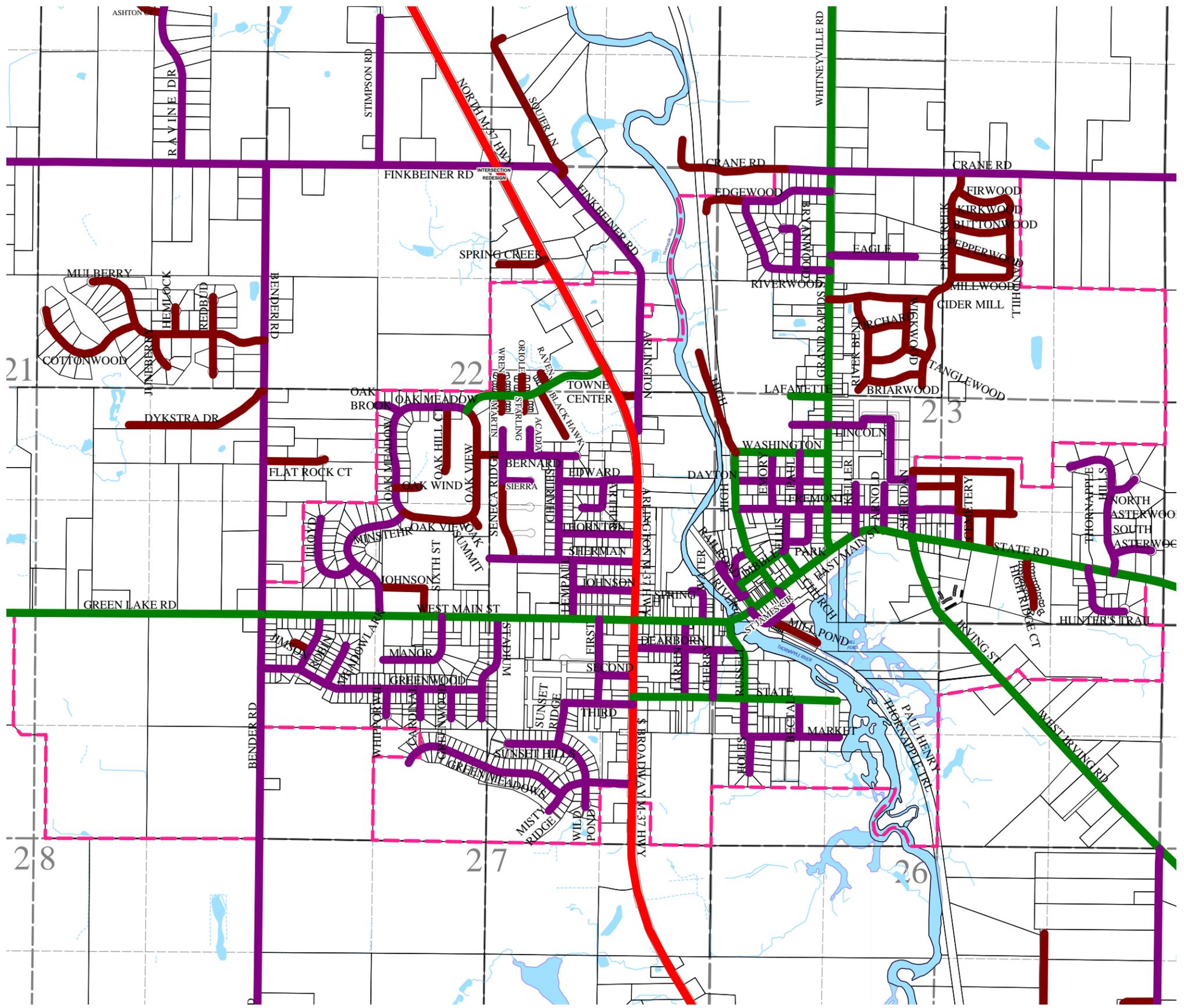
BARRY COUNTY, MICHIGAN



*MAP 14-1*  
**EXISTING STREET SYSTEM**

Legend:

-  Local Street
-  Major Street
-  State Highway
-  Private & Residential



SCALE 1:15000  
BARRY COUNTY LAND  
INFORMATION SERVICE  
MAY 2006

Considering the planned future land uses and densities in Chapter 9, a detailed evaluation was undertaken to determine need for general locations for future collector streets. Future collector streets within the Village and Joint Planning Area are depicted on **Map 14-2**.

One new collector street is proposed within the Village. All others shown on **Map 14-2** are within the Joint Planning Area.

□ **Village Collector Street**

The so-called west bank area within the Village lies north of Main Street and west of the river. This neighborhood is largely undeveloped except near West Main Street. As indicated earlier in this plan, the landform contains a mix of regulated wetland, active springs and uplands. It also includes high bank shoreline along the river. Development of this neighborhood will require a collector street generally following the bottom of steep slopes east of M-37 frontage lands.

□ **East/West All-Weather Arterial Highway**

At this time, the Barry County Road Commission has contracted engineering services for a new bridge crossing of the Thornapple River on the Crane Road/Finkbeiner Road alignment. This bridge will be a part of a new east/west arterial highway extending from Whitneyville Road west to Patterson Road. Based on the BCRC announced schedule, the road and new bridge should be opened to traffic in the year 2010.

The following proposed public streets are all within the Joint Planning Area. Each is intended to be a collector-

type street. Each collector street, shown on **Map 14-2**, is generalized as to location and alignment. Each proposed street provides internal circulation to large tracts of land, extends an existing collector street or provides connection between existing major streets.

□ **Collector Street–NW ¼, Section 22**

This quarter-section of land adjacent to the Village remains undeveloped. Of the 160 acres, 20 acres are owned by the Village and intended as a future community park. The remaining 120 acres are planned for medium density residential use. The proposed collector street would be extended northward from Rolling Oaks subdivision to the rebuilt Finkbeiner Road. A second leg of this collector would connect to Bender Road.

□ **Collector Street-SW ¼, Section 21**

Bordered by Bender Road on the east and West Main on the south, most of this quarter section is planned for medium density residential use. The proposed collector street would loop between Bender and West Main Street, an intersection that experiences heavy peak hour traffic due to proximity to the Thornapple-Kellogg School District's main school complex.

□ **Collector Street-NW & SW ¼, Section 25**

Future development in the west ½ of Section 25 is a mix of medium and low density residential. This area and adjacent lands contain about 140 acres of undeveloped land. The proposed collector street would connect with both W. State Road and Irving Road, each being a county primary road. Unfortunately,

both county primaries intersect west of this area within the Village. The East Main Street/Irving Road intersection may require improvements and alternative traffic control devices if the areas within Section 25 develop as planned.

□ **Collector Street-W ½, Section 26, South of Village and Section 27, East of M-37**

This area contains about 175 acres of undeveloped land, a portion of which lies in the Thornapple River flood plain and contiguous wetlands. This area is planned for medium density residential. The proposed collector street would loop through properties in the area from two intersections with M-37. No other direct access should be permitted to M-37 along this highway segment [see Chapter 15 for more detail].

□ **Collector Street-W ½, Section 27, South of Village**

Misty Ridge subdivision [200 home sites], will develop in phases 6-8 in this quarter-section. Misty Ridge Drive is intended as a collector street and should extend from the west line of the subdivision to Bender Road. The Thornapple-Kellogg School District recently acquired 80 acres of land in this Section [i.e. N ½ of the SW ¼ of Section 27]. A second leg of this collector street would extend southward from Misty Ridge to Adams Road. This extension would serve future school development and an additional 140 acres of undeveloped land between Misty Ridge subdivision and Adams Road.

As land developments are proposed within any area planned for a collector street, each development should affect collector street connection shown on **Map 14-2**.

Current standards for residential streets require a 22-foot cross-section plus a 12-inch gutter and concrete face curbing. In any development area designated for a collector street, the internal collector street should meet the following minimum design standards:

- 1) 26-foot street cross-section,
- 2) 12" concrete gutter with face curbs,
- 3) Curb radii with local street should be 35 feet minimum,
- 4) 60" wide sidewalks on both sides of the collector street are required unless alternate pedestrian facilities are incorporated in the project plan and specifically approved by the Planning Commission. Any alternate design will serve each home site or dwelling within the project.
- 5) The collector street should not be a direct through street in any development. Alignment, both horizontal and vertical, should discourage excess vehicle speed. Also, tee-type intersections are encouraged to force vehicle stops and slower vehicle speed.

Any property owner or would-be developer of land located in an area planned for a collector street should be advised of the need for a collector street early in the design process. Collector streets may be developed in segments as the development proceeds in phases.

# VILLAGE OF MIDDLEVILLE

BARRY COUNTY, MICHIGAN



## MAP 14-2

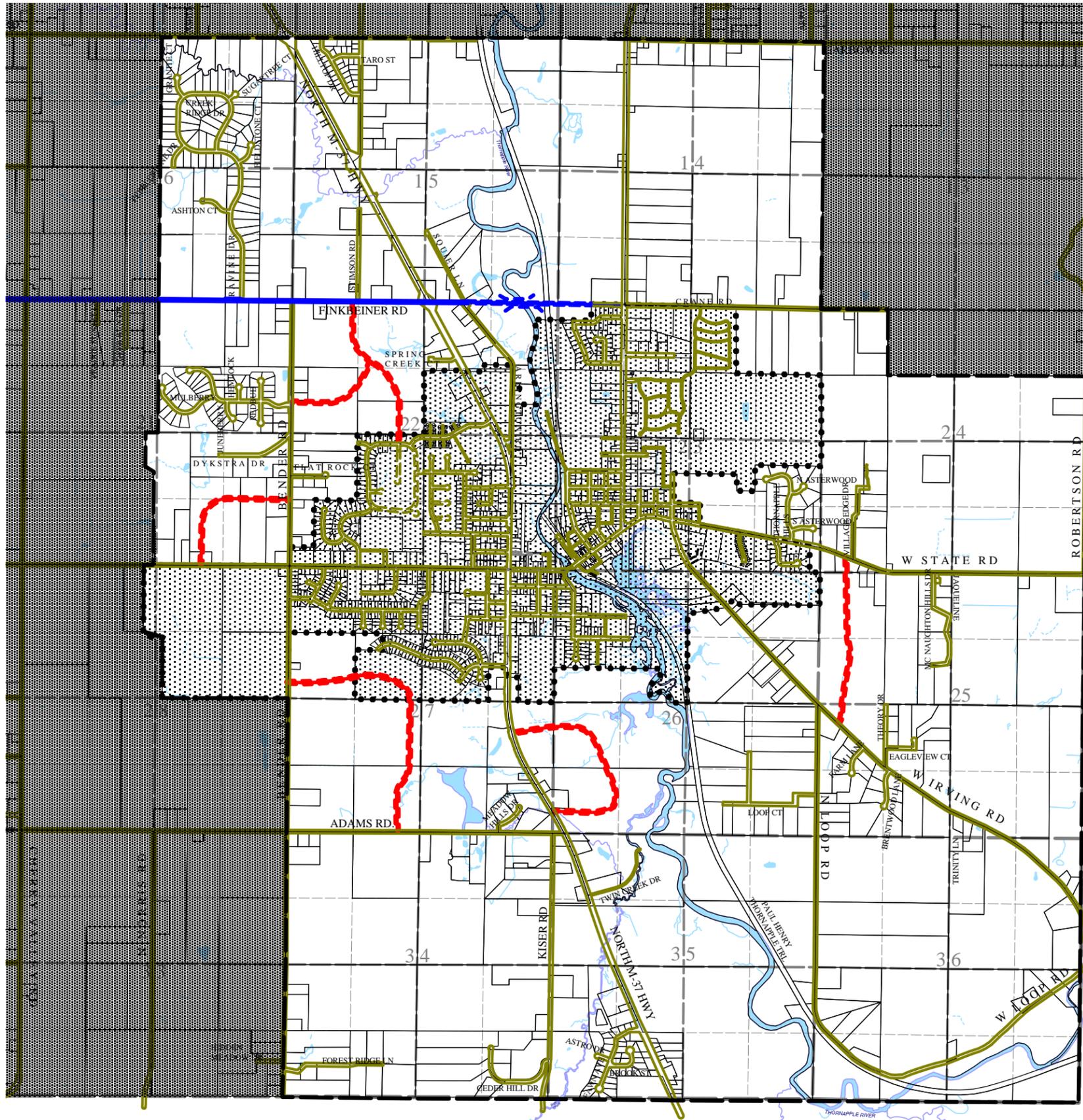
### FUTURE STREETS PLAN FOR VILLAGE & JOINT PLANNING AREA

*Legend:*

- ..... Village of Middleville Boundary
- Proposed Arterial Roadway  
(County Primary)
- Proposed Collector Street  
(County Local)
- Private Road  
Future Connection
- Proposed Bridge



SCALE 1" = 2400'  
BARRY COUNTY LAND  
INFORMATION SERVICE  
MAY 2007



SOURCE: THORNAPPLE TOWNSHIP & VILLAGE OF MIDDLEVILLE 2006

**Chapter Fifteen****SPECIAL  
PLANNING  
AREAS**

This chapter addresses areas within the Village that require special or detailed attention. These areas involve unique physical situations. In particular, such areas have physical obsolescence, need redevelopment or require special access management techniques.

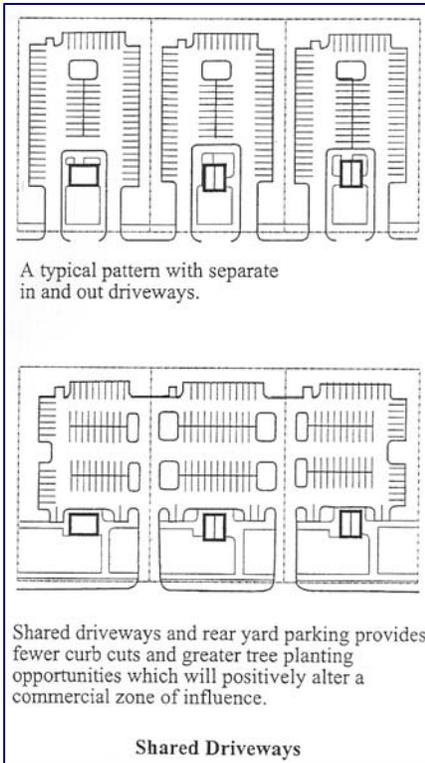
This chapter provides urban design concepts for each such area. While actual development or redevelopment may not replicate the design shown, certain basic design elements as explained in the narrative will be required as sites are redeveloped or developed.

The special planning areas presented in this chapter include (1) all M-37 highway road frontage lands [also known as *S. Broadway and Arlington Streets*] and, (2) the north side of *West Main Street* between the Thornapple River and M-37.

**M-37 Special Planning Area** [*South to North Village Limits*].

The frontage lands along M-37 will be subject to significant levels of development during the 2007-2020 planning period. Given the ever-increasing volume of daily traffic experienced on M-37, safe traffic operations are of paramount concern. The urban design concepts presented for M-37 frontage lands in this chapter are based on the following design parameters:

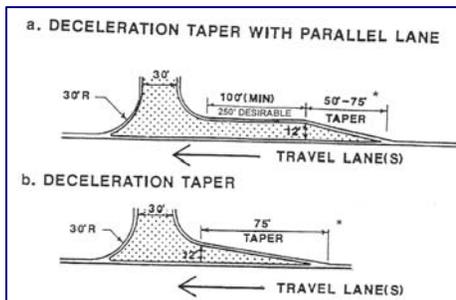
**Access points** to M-37 for change in occupancy, reuse of an existing building or new site development will be restricted. As a condition of site plan approval, these restrictions will: (a) favor parallel private, shared access roads, (b) where parallel drives are not possible, shared driveways among adjoining land uses will be required and (c) access to commercial and office sites for which (a) and (b) above are not possible, will occur from an existing side street.



For **direct access driveways**, deceleration tapers or turning lanes meeting requirements of the Michigan Department of Transportation [MDOT] will be required as a condition of site plan approval. Such driveways will meet the geometric standards of MDOT.

New **building orientation** along M-37 will favor placing the structure 10-15 feet off the M-37 right of way line with companion parking positioned to the rear of the building. The objective of this approach is to create a traditional downtown appearance for frontage lands, especially those within a block north or south of the Main Street intersection.

Adaptive use or redevelopment of frontage lands that are adjacent to existing residential neighborhoods will require **visual screening and landscape buffers** along the common lot line between land uses. Details of effective screening and buffers may need to be addressed on a case-by-case basis, though minimum standards of the Village landscape ordinance will be complied with.



**Outdoor lighting** for all commercial or office sites adjacent to existing residential use will be of a full cut-off style with no direct illumination falling onto residential properties.

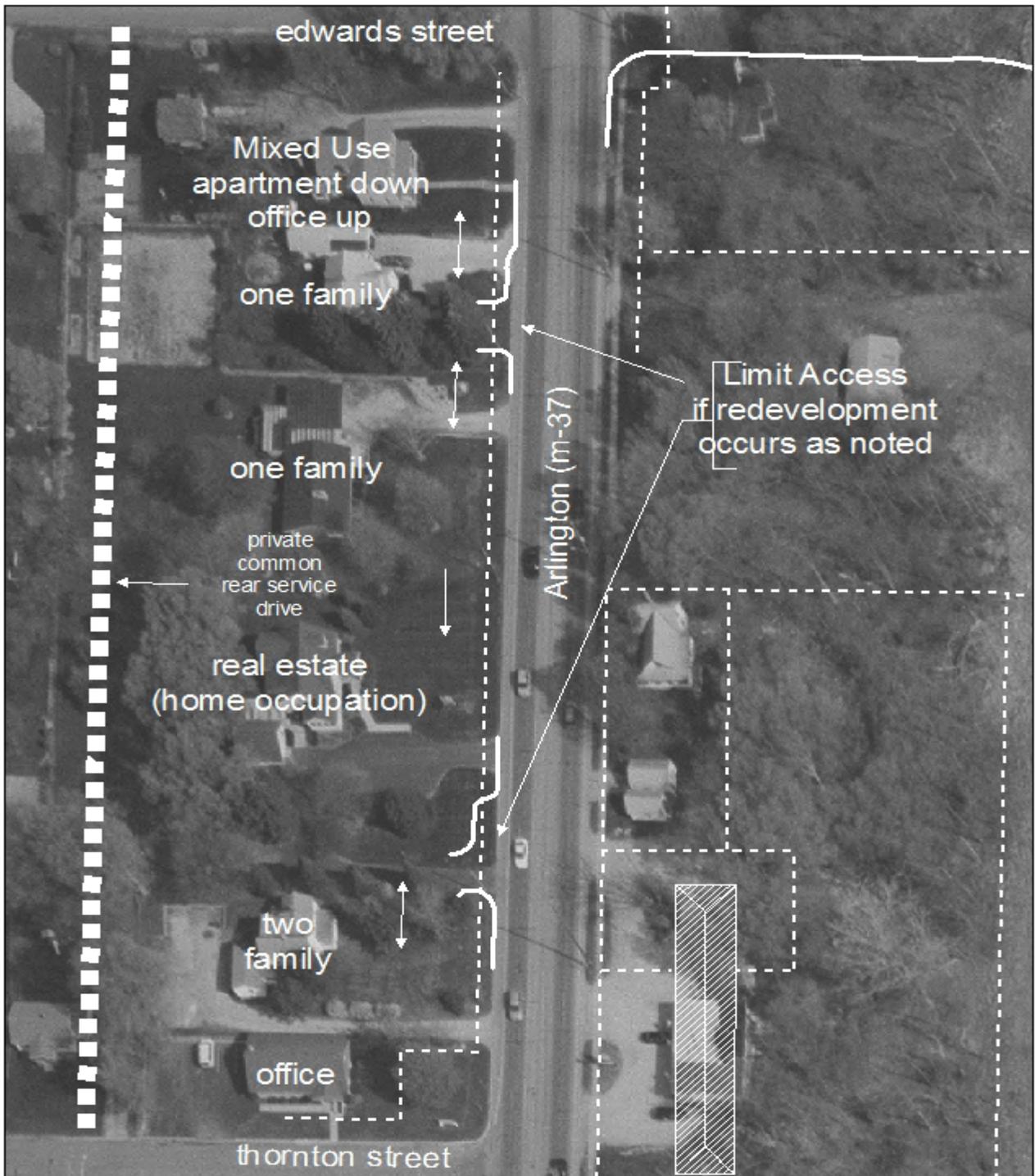
**Signage** for adaptive use or redeveloped sites will conform to the sign ordinance regulations in effect at the time of site plan review.

The **land area between the building façade and M-37** right of way line will be devoted to improved landscape areas and pedestrian facilities.

For all reuse or new development projects with the Downtown Development District, **building façade designs** will meet the facade design guidelines adopted by the Downtown Development Authority [DDA] and all designs will be subject to approval before Planning Commission approval of a final site plan.

The urban design plans 15-1 through 15-12 shown on the pages that follow offer design layouts reflecting (a) design parameters noted above, (b) building sizes relating to available land area, (c) estimated parking needs, (d) landscape buffers and (e) sign locations.

The illustration below depicts each segment along M-37 given attention in **Maps 15-1 to 15-12**



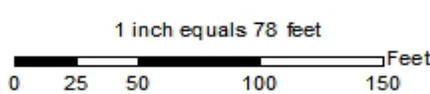
**2007-2020**

**MASTER PLAN**  
*Urban Design Concept*

*West Side Arlington*  
*Thornton St. to Edwards St.*

**Williams & Works**  
*engineers • planners • architects*

401 S. 22nd Street, Suite 1000 | Raleigh, NC 27601  
919.833.1111 | www.williamsandworks.com



**Map 15-1**

**Legend**

- Building
- Curb
- Parking Lines
- Sidewalk
- Service Drive

**Design Notes:**

- \* Unique to frontage lots along Arlington, 5 of 6 parcels have 245 feet of lot depth from the west right-of-way line.
- \* Preferred land use treatment for this entire block face is to retain current uses of zoning and properties.
- \* If redevelopment is proposed during the planning period, a re-evaluation of this position should occur.
- \* If redevelopment occurs, then all parcels along this block face need to be joined with reciprocal access between parcels as noted and access to Arlington limited to two entrances as noted.

### **West Side Arlington Edwards Street to Thornton Street [Map 15-1]**

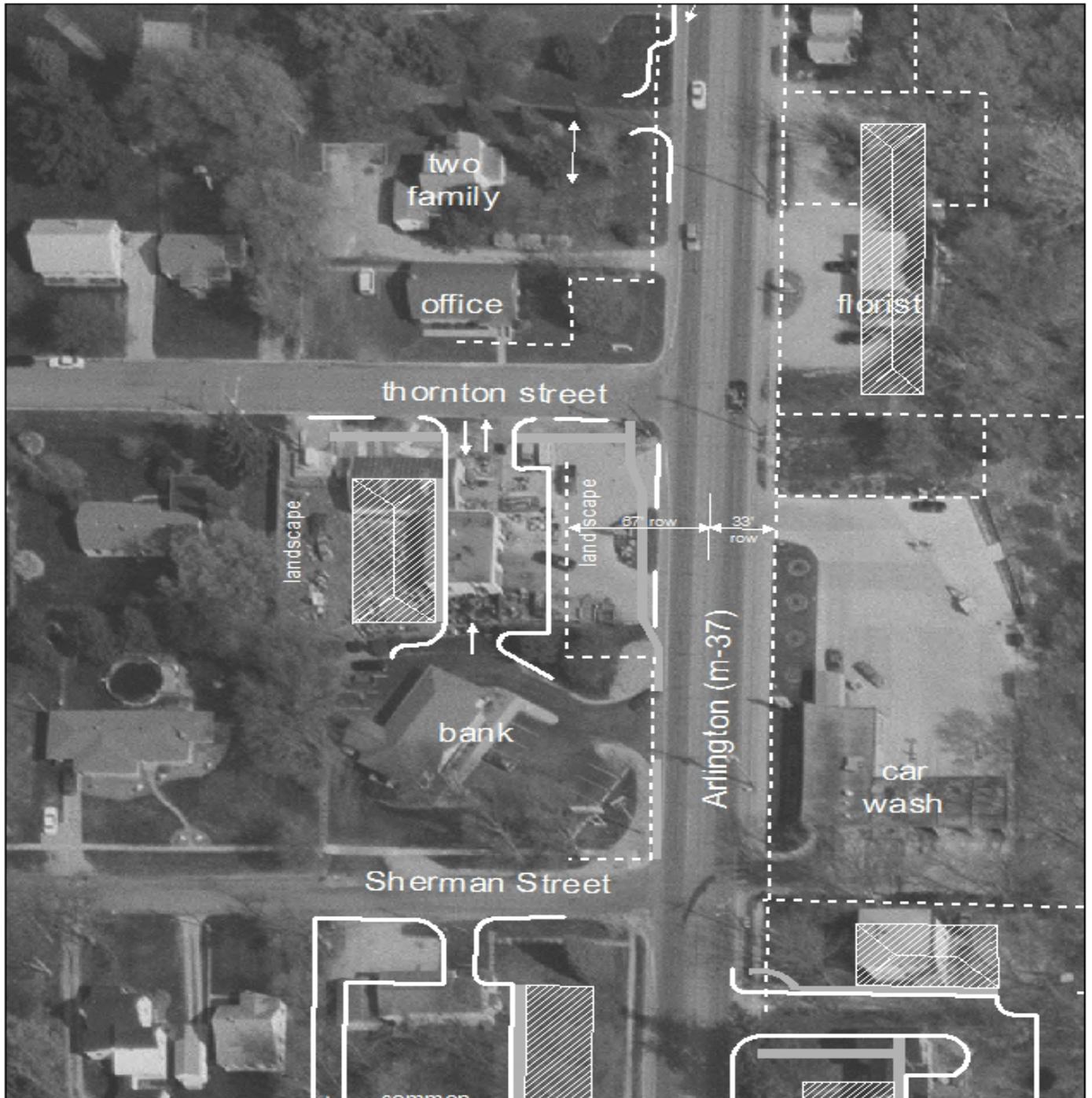


This segment consists of established land uses on parcels that average about 98 feet of frontage along Arlington [M37] and, except for Lot 17 in Thornton's Addition, have 246 feet of lot depth. The basic premise for this block segment during the planning period is to maintain established land uses and limit direct access to M-37.

However, in the fall of 2005, the parcel at the SW corner of M-37 and Edwards was granted mixed-use status with office occupancy on the main level and an apartment on the second floor. A condition of this action was that the driveway onto Arlington would be closed and a new driveway installed with access to Edwards Street. This new driveway is to represent the beginnings of a common private service drive running north/south along the rear property lines in the entire block. While the design plan shows consolidated access among properties onto M-37, the rear common access plan is also shown and is preferred.

As uses of the properties in this segment change, become more intensive or are rezoned, provisions for extension of the common private service drive along the west properties lines of all parcels should be enforced by the Planning Commission. If rezoning or special land use status is sought by any property owner in this segment of roadway that would result in increasing the intensity of land use, then design for and legal provisions for a common shared access drive must be addressed.

The design concept presented on **Map 15-1** documents existing uses of land/buildings within the Edwards to Thornton Street segment along the west side of Arlington. Also shown, are two alternative access schemes, including consolidated driveways and a common service drive along the west line of the properties.



2007 - 2020

**MASTER PLAN**  
*Urban Design Concept*

*West Side Arlington*  
*Sherman St. to Thornton St.*

**Williams & Works**  
landscape architects

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1000 Grand Avenue NW - Grand Rapids, MI 49503

1 inch equals 78.125 feet



**Map 15-2**

**Legend**

-  Building
-  Curb
-  Parking Lines
-  Sidewalk

**Design Notes:**

- \* Arlington right-of-way takes a 34 foot wide jog in the middle of this block with the right across bank parcel 33 ft wide from the centerline and the existing small engine repair facility 67 feet wide from the centerline.
- \* Preferred reuse across this block face would be expansion of existing bank or office reuse.
- \* Close existing driveways on Arlington, except existing bank access, and all existing drives along Thurman.
- \* Provide for reciprocal access between parcels as noted, unless entire block face is redeveloped.

### **West Side Arlington Thornton Street to Sherman Street [Map15-2]**

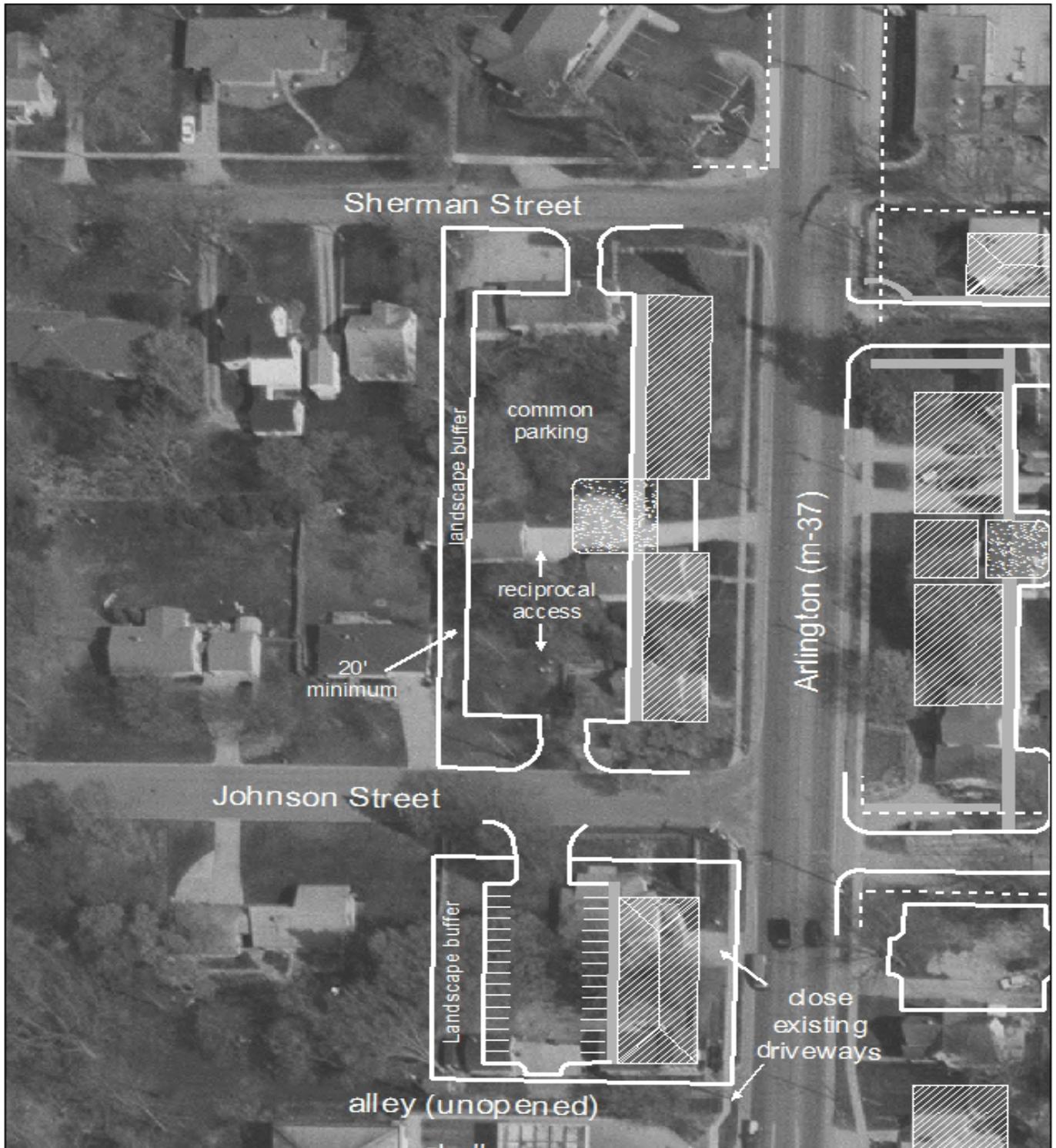


This segment consists of the block between Thornton and Sherman. Lots 1 and 2 of Thornton's Addition are in common ownership, each lot being 59.75 feet along Arlington and 132 feet of depth. The M-37 right of way width is 67 feet from centerline in front of these two lots. A second parcel occupied by Chemical Bank is 120 feet along Arlington and 181.5 feet of depth.

Lots 1 and 2 have three combined driveways, two onto Arlington and one onto Thornton Street. Existing driveways onto Arlington are recommended for closure and favor of improved access from Thornton Street.

Ideally, the existing small engine repairs facility will be removed in favor of office use as shown on the concept plan for this block on **Map 15-2**. This site has environmental compliance issues, having had underground fuel tanks removed without registration with the Michigan Underground Storage Facility program.

The bank site has present issues regarding circulation and parking. Given the location of the auto teller/ATM window, vehicles parked at this window effectively block access to the bank's drive up teller window to the west of the building. Historically, employees of this bank have parked on an unimproved gravel strip along Sherman Street, a violation of Village parking standards. The bank needs a larger site to accommodate employee and customer parking.



2007 - 2020

**MASTER PLAN**  
*Urban Design Concept*

*West Side of Arlington  
Johnson to Sherman*

**Williams & Works**

3110 N. 10th Street, Suite 100, Phoenix, AZ 85016  
480.944.1100

1 inch equals 78.125 feet



Design Notes:

- Unified block design, maybe implemented in phases using reciprocal access easements
- Unified "storefront" two-story architecture with common pedestrian entrance and shared "core functions"
- Shared Parking
- Landscape buffer along west property lines, 20 ft minimum width
- Office Uses preferred
- Access only from Johnson/Sherman Streets
- Close existing Arlington driveways



**Map 15-3**

**Legend**

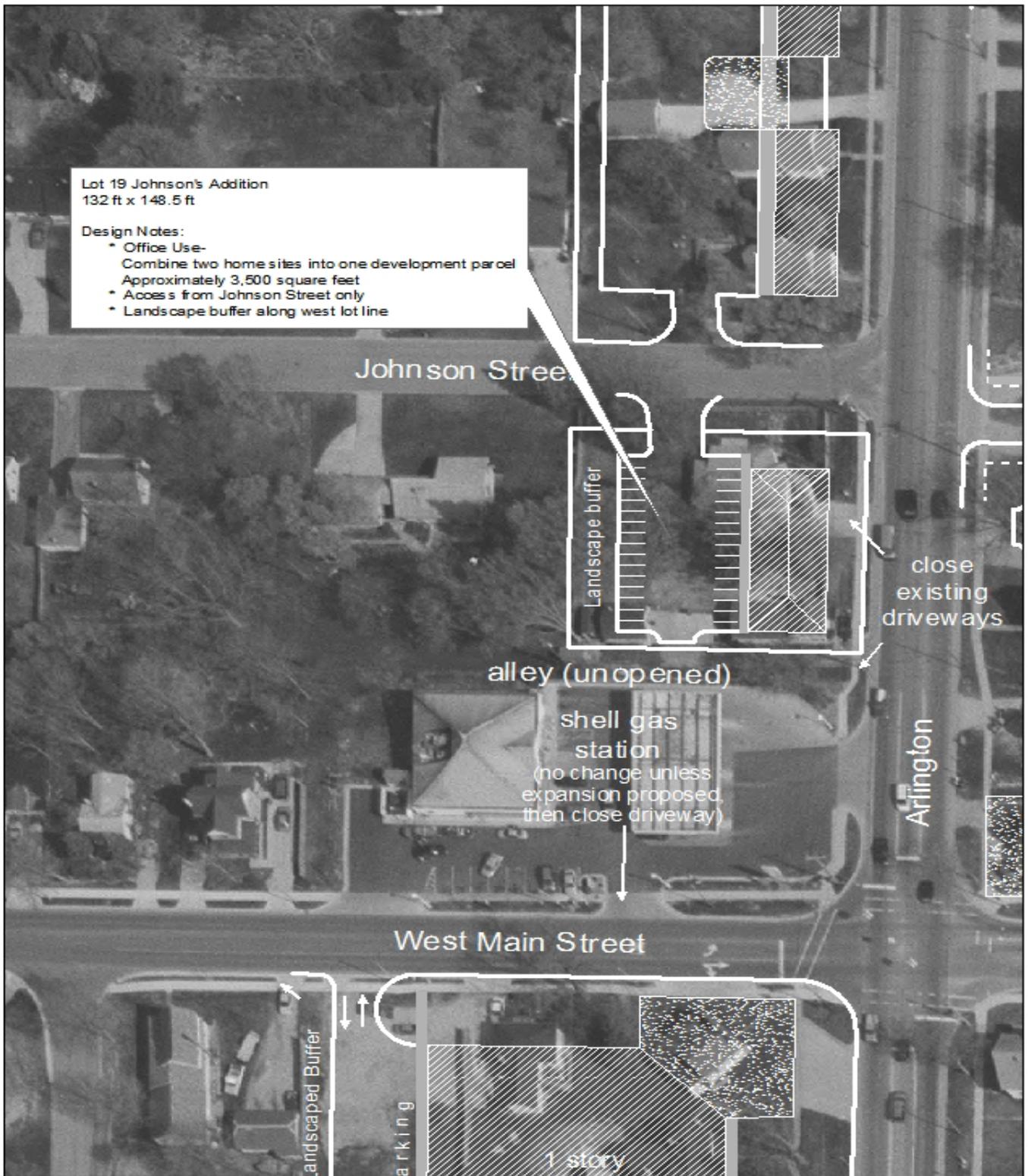
- Building
- Plaza
- Curb
- Parking Lines
- Sidewalk

### **West Side Arlington Sherman Street to Johnson Street**



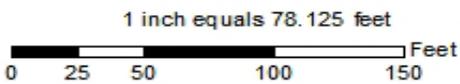
The block face between Sherman and Johnson Streets includes four platted lots, being lots 20, 21, 38 and 39 of Johnson's Addition. Each lot has 66 feet of frontage along M-37 and 148.5 feet of depth. Lots 21 and 38 each have an additional 8.25 feet of frontage, having benefited from a vacated 16.5 feet wide "Keeler's Alley", bringing total frontage on these two lots to 74.25 feet.

**Map 15-3** presents the urban design concept for this block face. This concept provides a unified design for the entire distance from Sherman to Johnson. Common parking, reciprocal access easements, two detached "storefront" style buildings, a center pedestrian plaza, landscape buffer and side street access are elements of this plan. It could be achieved in two phases. Each of the two 32 ft. x 110 ft. buildings has about 3,500 square feet of gross floor area. The area shown as parking would accommodate 52 parking spaces, including two handicapped spaces. Office occupancy is the favored land use for this block face. A twenty-foot wide landscape buffer/screening is shown along the entire west property line, since uses to the west are exclusively single family detached residential.



2007 - 2020

**MASTER PLAN**  
*Urban Design Concept*  
*West Side of Arlington*  
*West Main to Johnson*



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**Map 15-4**

Legend	
	Building
	Sidewalk
	Curb
	Parking Lines

### West Side Arlington Johnson to West Main Street



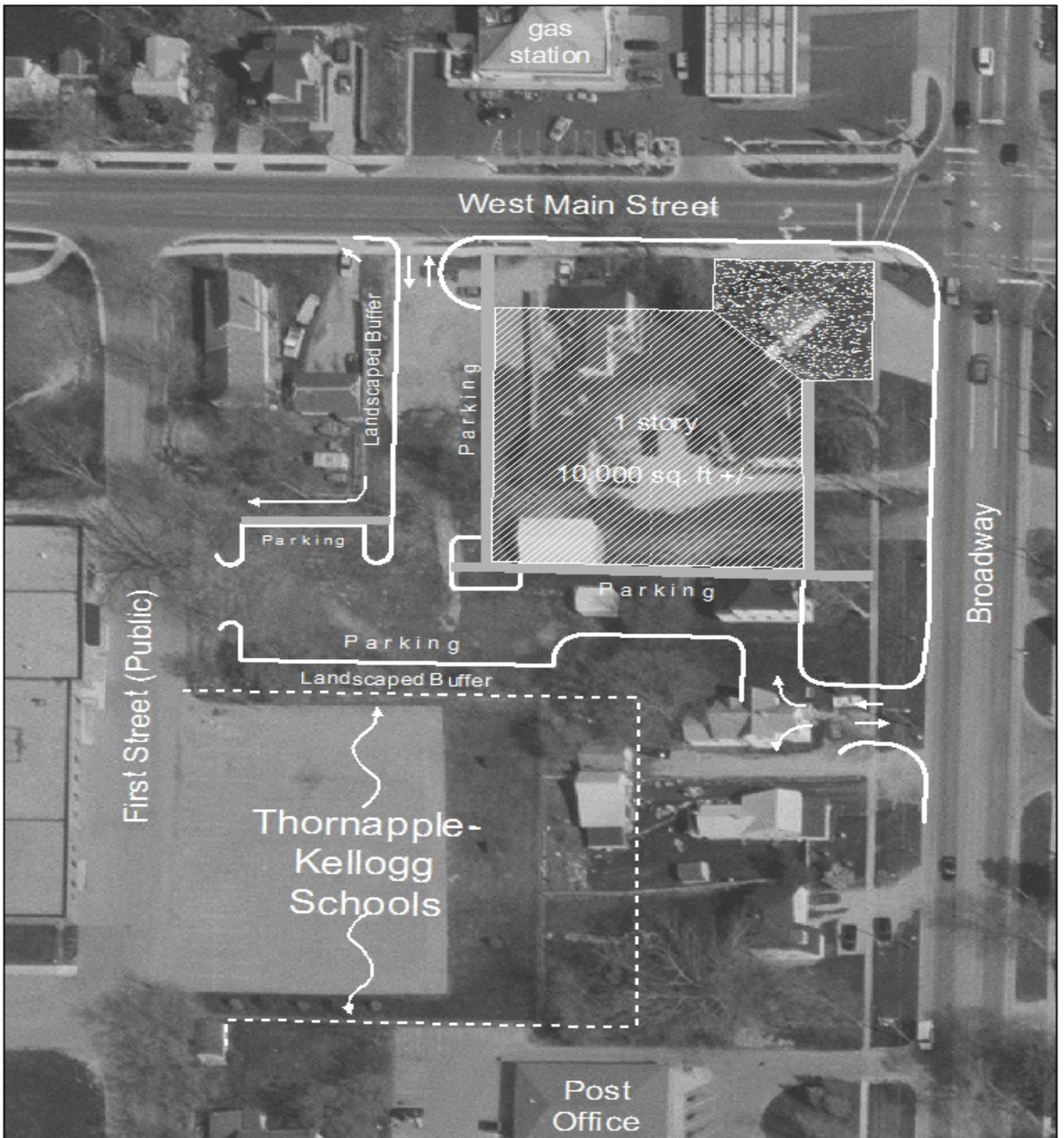
This segment of Arlington includes Lots 1-3 and Lot 19 of Johnson's Addition. Lots 1-3 are occupied by an existing "Shell" gasoline station/convenience store. Two single-family dwellings occupy Lot 19.

Lot 19 has 132 feet of frontage along M-37 and 148.5 feet of depth and is divided equally into two separate ownerships, each 66 feet in width. As with the Sherman/Thornton block face, these lots are far too narrow to redevelop individually and still maintain safe traffic operations on the highway. As such, the conceptual design depicted on **Map 15-4** includes consolidated use of these two lots as an office building with parking on the west side of the building. Design elements are similar to those shown on Map 15-3 and include one "storefront" style building, parking to the west with a landscape buffer/screen all along the west property line, a 40 ft. x 90 ft. office building [3,600 square feet of gross floor area] and 32 vehicle parking spaces, including two handicapped spaces.

Two existing driveways onto M-37 would be closed in favor of side street access from Johnson Street.

The gasoline station site is fully developed on lots 1-3. This business has a driveway onto Arlington and two driveways along West Main Street. The first driveway along West Main Street poses problems with sudden right turns into this first driveway. This driveway should be closed if any remodeling requires site plan approval. The existing freestanding sign is also non-conforming.

Finally, this use has insufficient on-site parking. These matters should all be corrected during a site plan review process.



2007 - 2020

**MASTER PLAN**  
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**West Side of Broadway**  
**West Main to Post Office**

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1 inch equals 78 feet



**Map 15-5**

**Legend**

-  Building
-  Sidewalk
-  Boundaries
-  Curb

**Design Notes:**

- Create common access drive as far south from intersection as possible, shared between neighbors preferred
- Blueprint Plan suggested two-story 'storefront' at intersection of West Main & M-37, this design concept depicts one-story 10,000 sq. ft. retail building
- Add new driveway on West Main Street, closing all existing driveways

### **West Side South Broadway West Main Street to Second Street**

This block face contains 9 platted lots, including Lots 4-7, block 50 of A.D. Babcock Addition and Lots 4-7, Block 57 in the same plat. Lots 3-10 of Block 50 are under common ownership at the SW corner of West Main Street and South Broadway. This very crucial corner location offers immense redevelopment potential.

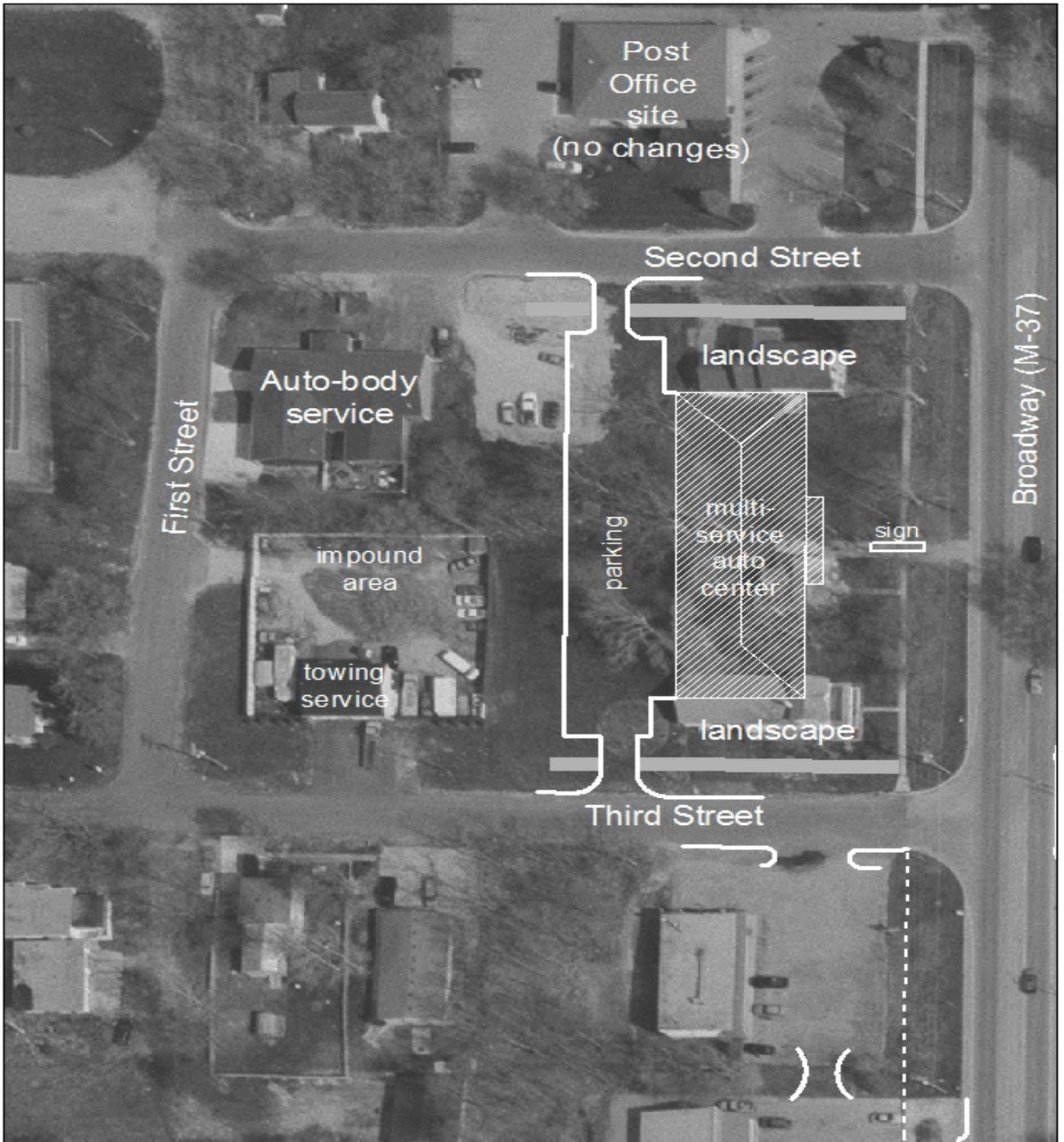
As envisioned in the conceptual plan shown on **Map 15-5**, this series of lots would be redeveloped using a unified design. The concept plan depicts a one-story storefront style building of 10,000 square feet in a retail use. A corner pedestrian plaza is shown together with landscape area between the building and street rights of way and along the southwest and west property boundaries. A total of 47 parking spaces can be accommodated on-site based on the conceptual plan.

The building on this corner should be very distinctive, more traditional style storefront. If done properly, this corner building could create an extremely positive community image.

Existing driveways at the intersections as well as one each on South Broadway and West Main Street would be closed in favor of access points shown on the conceptual plan.

Two additional 66 ft. wide lots south of the corner redevelopment would share an access driveway. The post office is located on the two lots just north of Second Street.

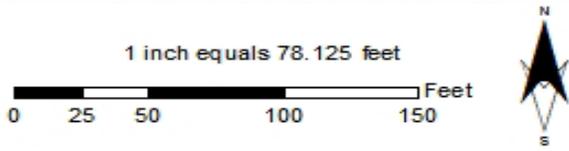
All urban design elements discussed earlier would be incorporated in the redevelopment of this block face.



2007 - 2020

**MASTER PLAN**  
**Urban Design Concept**  
 West Side of Broadway  
 Second Street to Third Street

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 405.521.1111



- Design Notes:**
- Unified site plan between streets
  - Infill parcel for multiple motor vehicle services
  - Access to new development from Second and Third Streets ...no direct Broadway Access
  - Close existing driveways

**Map 15-6**

**Legend**

- Building
- Sidewalk
- Curb

**West Side of South Broadway  
Second Street to Third Street**

This block face contains four 66 ft. wide platted lots within block 66 of the A. D. Babcock Addition. These lots share common ownership [*three homes are present*] along with lots 1-8 in the same block.

**Map 15-6** envisions a multiple-use auto service center across the block face between Second and Third Streets. The west half of this block is currently devoted to an auto impound yard and auto body repair.

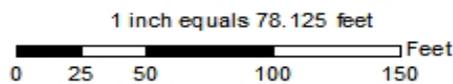
The conceptual plan eliminates driveways on the Broadway block face in favor of driveways from Second and Third Streets.



2007 - 2020

**MASTER PLAN**  
**Urban Design Concept**  
**West Side of Broadway**  
**Third Street to Misty Ridge**

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**Map 15-7**

Legend	
	Building
	Sidewalk
	Curb
	Parking Lines

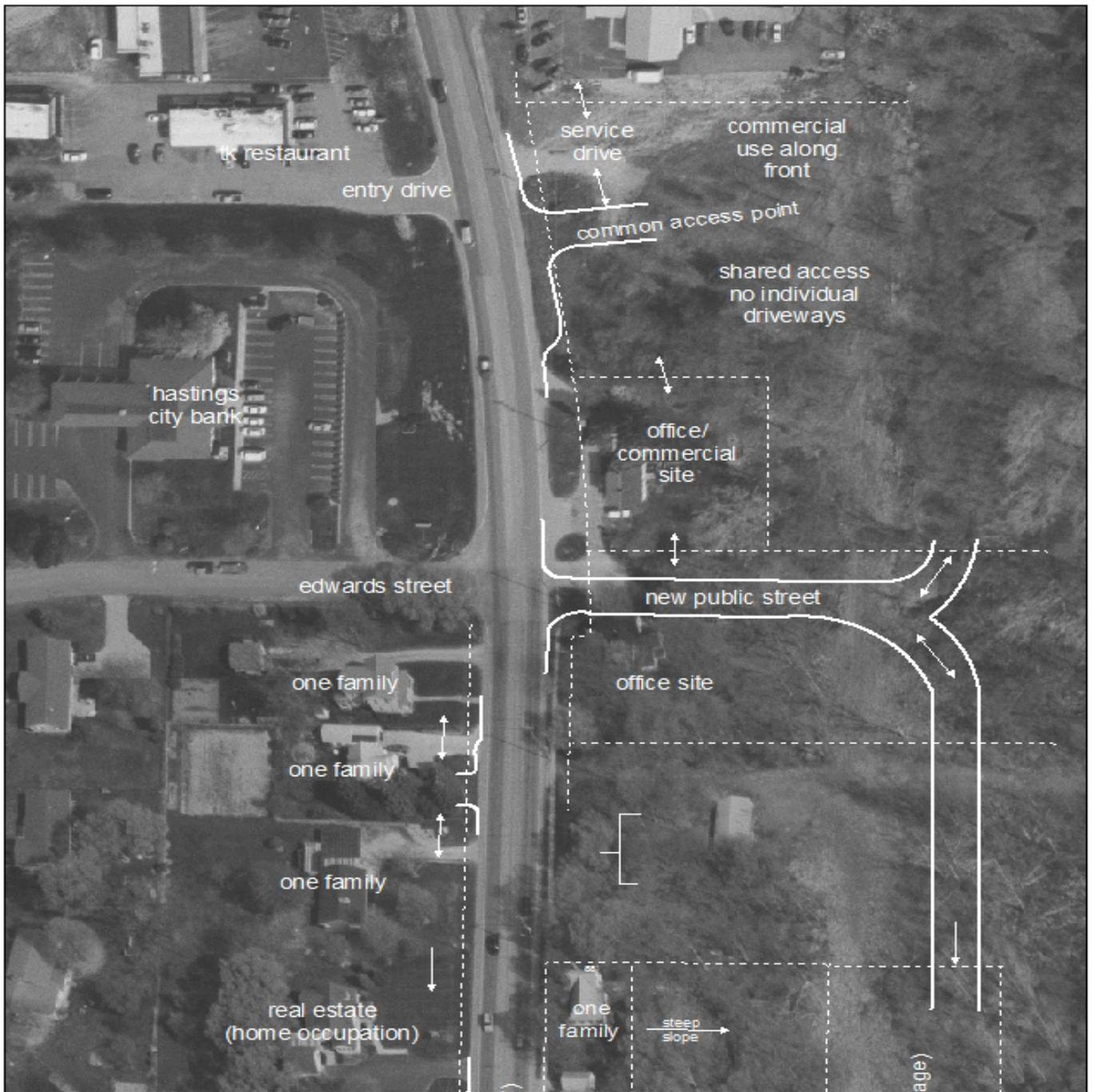
- Design Notes:
- Extend service drive by connecting Misty Ridge Plaza with Three Brothers
  - Reciprocal Access Easements
  - Infill parcel for mixed use retail and/or office
  - Floor area allowance based on required parking ratio
  - Close existing driveways

### **West Side of South Broadway Third Street to Misty Ridge Drive**

This block face contains five separate ownerships and four existing buildings. Operating at the corner of Third Street and South Broadway is a coin laundry. This laundry has access from Third Street only. The Third Street driveway is wide open, extending nearly 100 feet along Third Street. This driveway opening should be narrowed to align with the existing parking lot using new concrete face curb to channel traffic. At the south side of this parcel, a driveway cross connection with the second parcel to the south, is recommended.

The second parcel is a strip center with veterinary and hair salon services. This parcel has an existing driveway directly onto South Broadway. It is recommended this driveway be closed in favor of a shared driveway with Three Brothers pizza. An existing shared access easement occurs on Three Brothers as well as on the Misty Ridge Plaza parcel at the corner of South Broadway and Misty Ridge Drive. The four-parcel south of Third Street contains a two-family building. The concept plan for this parcel depicts a 50 ft. by 150 ft. retail/service center building with common parking. The shared access easement both north and south of this parcel would be extended across the frontage of this parcel so no new driveway would be added along South Broadway.

**Map 15-7** depicts these planning concepts.



**2007 - 2020**

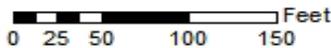
**MASTER PLAN  
Urban Design Concept**

**East Side Arlington  
Parcels just north of car wash**

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1 inch equals 117.1875 feet



**Map 15-8**

Legend	
	Building
	Curb
	Parking Lines
	Sidewalk

**Design Notes:**

- This is also one of the most difficult design challenges along Arlington as it has limited distance east of Arlington to the steep slopes to the east.
- Driveways need to be strictly limited along this segment of Arlington; however, access to lands between Arlington and the river must be accommodated.
- A new public street is depicted opposite Edwards creating an intersection with Arlington. If possible, this intersection should be signaled when development is begun on land to the east along the Thornapple River.
- A second private common access point is depicted offset and opposite the existing driveway to the Thornapple Kitchen. This driveway would connect with a parallel service road serving north to and including Tires 2000 and south to the proposed new street.

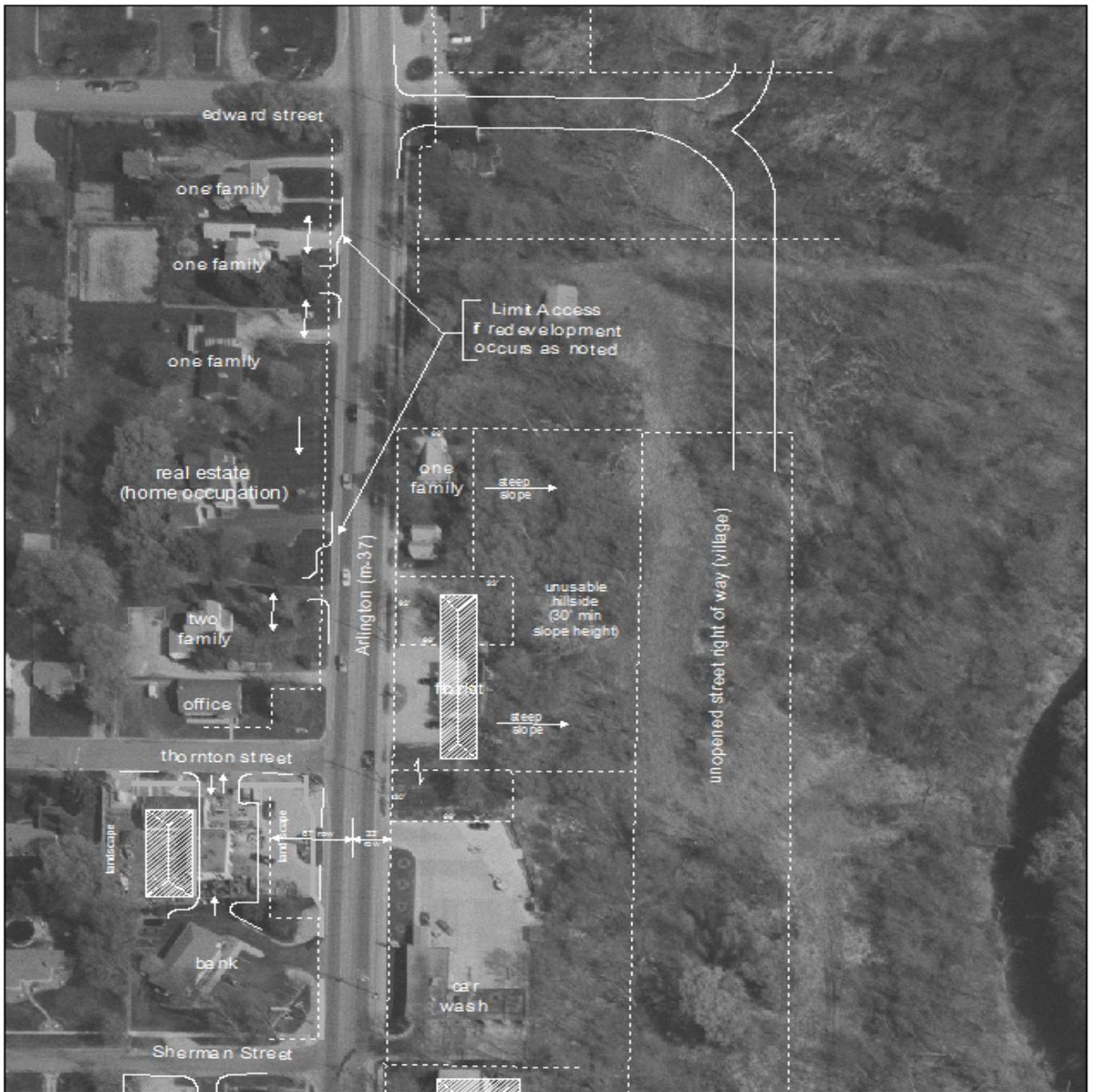
### **East Side of Arlington (M-37) Tires 2000 South to 408 Arlington**

This block segment is largely undeveloped but for Tires 2000 and two residential buildings used as rentals. The 11 acres +/- of land immediately south and east of Tires 2000 is undeveloped. This land is planned for office/commercial use along the frontage and multiple family use to the east toward the river. A cross-access easement should be implemented between Tires 2000 and adjacent land when this land is developed. Moreover, a common access point along the frontage of the vacant land is shown to serve frontage lands only.

A new public street opposite Edwards Street is shown that will serve all “backlands” between Arlington and the river. The new street would provide a common access point for the 11 acres as well as future development on backlands to the south.

Given the M-37 super elevation at the curve just north of Edwards Street, controlling access within this segment is vital to ensure safe traffic operations. The limited access layout shown on **Map 15-8** for this area must be implemented as these lands are developed. Traffic generated from the currently vacant lands when developed, will require careful management of access points to M-37 and geometric design for two future intersections [*one at the proposed public street and one at the common access drive*].

The Village, in collaboration with the Michigan Department of Transportation, will need to thoroughly evaluate this roadway segment as regards traffic control devices, intersection geometrics, turning lanes and deceleration lanes.

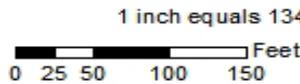


**2007-2020**

**MASTER PLAN**  
*Urban Design Concept*

*East Side Arlington*  
*Parcels just north of car wash*

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**Map 15-9**

**Design Notes:**

- This is one of the most difficult design challenges along Arlington/Broadway due to very limited parcel depth between M-27 ROW and the very steep, 30' high slope to the east
- Preferred land use treatment for this entire block face is to encourage expansion of the florist's building as noted and public acquisition of the 60' deep parcel on which a dwelling now exists or use for added parking for the floral building.
- The areas from top of slope to street right of way should be acquired as public land and joined with the existing public street right of way following the toe of the steep slope. If the area between this steep slope and right of way to the river is redeveloped, this public property could be added to the private redevelopment as an open space buffer.

**Legend**

- Building
- Curb
- Parking Lines
- Sidewalk

### East Side of Arlington Street 408 Arlington South to Car Wash

This segment of roadway frontage has difficult and unique issues. **Map 15-9** represents these conditions. In general, lot sizes are very small and steep slopes beginning 65-80 feet east of the east right-of-way line, limit opportunity for re-development.



The home at 408 Arlington is on a lot 66 feet deep. The adjacent lot to the south is 62 feet wide and 99 feet in depth. Even if combined, these two parcels do not offer potential for office or commercial re-development. Either they should be acquired by the Village and retained as non-development land or they should be combined as to ownership with adjacent land. Even with combination, they offer little more than an added area for on-site parking.

If combined with the floral shop parcel just to the south, these two small parcels could possibly offer added parking for an expanded floral shop or added storefront business.

A 50 ft. wide by 99 ft. deep parcel lies between the floral shop and car wash. This parcel is combined as to ownership with the floral parcel.

It cannot be sufficiently emphasized; the two small parcels should not be zoned for office or commercial use. They do not contain sufficient land area to sustain viable office or commercial use. The preferred approach would be public acquisition of these two small parcels to keep them undeveloped.



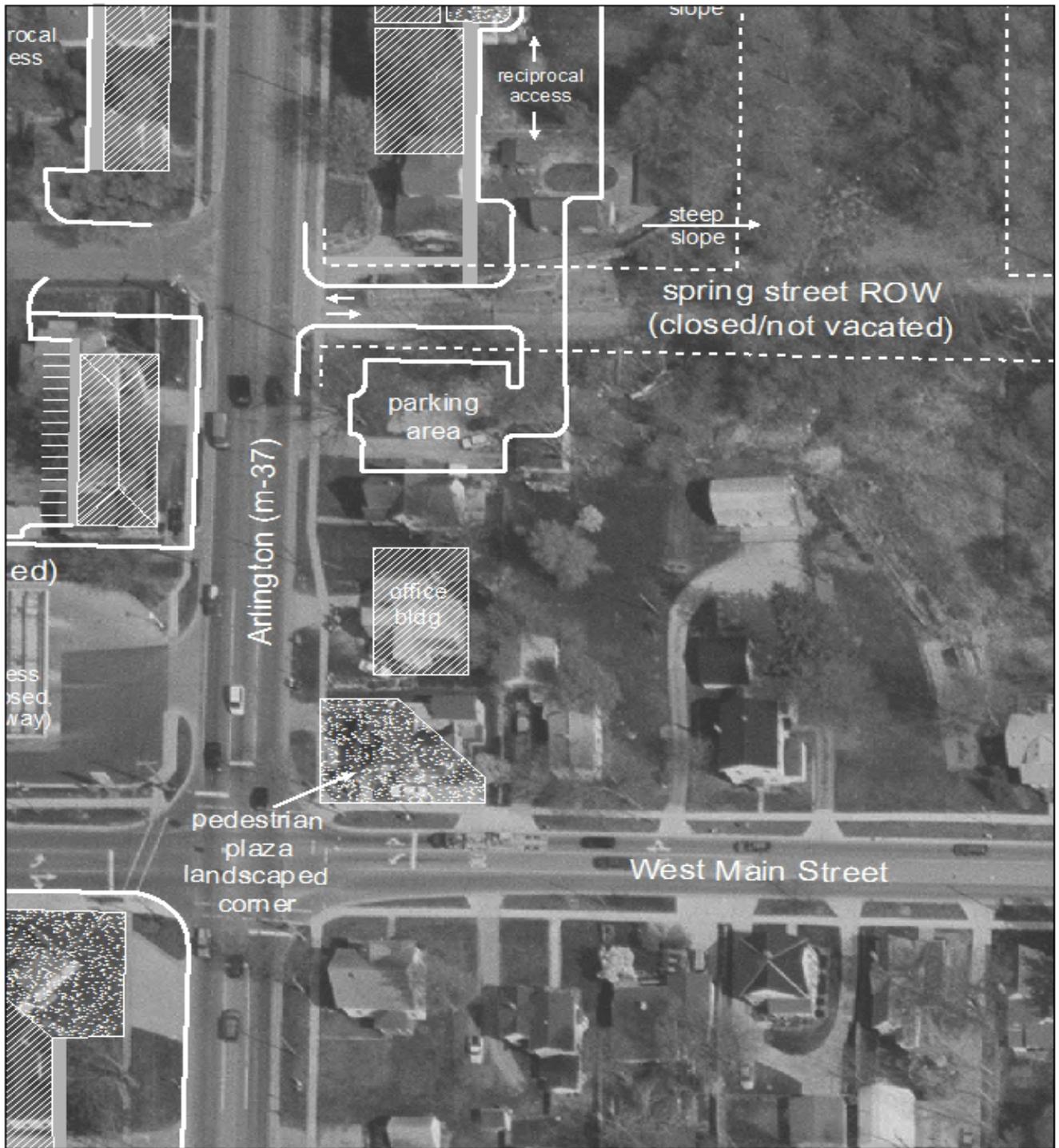
### **East Side of Arlington Car Wash to Former Spring Street**



This street segment contains four existing homes on lots 10-16 of Block 44, Original Plat of Middleville. Excepting lot 15, each frontage lot has 66 feet of width. As with the property to the north, some of these lots have steep slopes, limiting usable lot depth.

**Map 15-10** depicts a conceptual layout in which the four existing driveways are closed in favor of shared driveways at the former Spring Street and just south of and opposite Sherman Street.

The conceptual plan can be accomplished in phases, but requires reciprocal access among the adjoining properties. The most favored use for the buildings shown would be mix of office and business services. The buildings as shown are served by common parking.



**2007 - 2020**

**MASTER PLAN  
Urban Design Concept**

**East Side of Arlington  
West Main Street  
North to Spring Street**

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1 inch equals 78 feet



**Map 15-11**

**Legend**

-  Building
-  Curb
-  Parking Lines
-  Sidewalk

**Design Notes:**

- Create common access drive at Spring Street ROW for parcels north and south
- Blueprint Plan suggested for two-three story "storefront" at intersection of West Main and M-37
- Hotel at this intersection recommended by blueprint
- Add new driveway on West Main Street
- Driveways on Arlington north to Spring Street, first driveway on West Main Street, north side

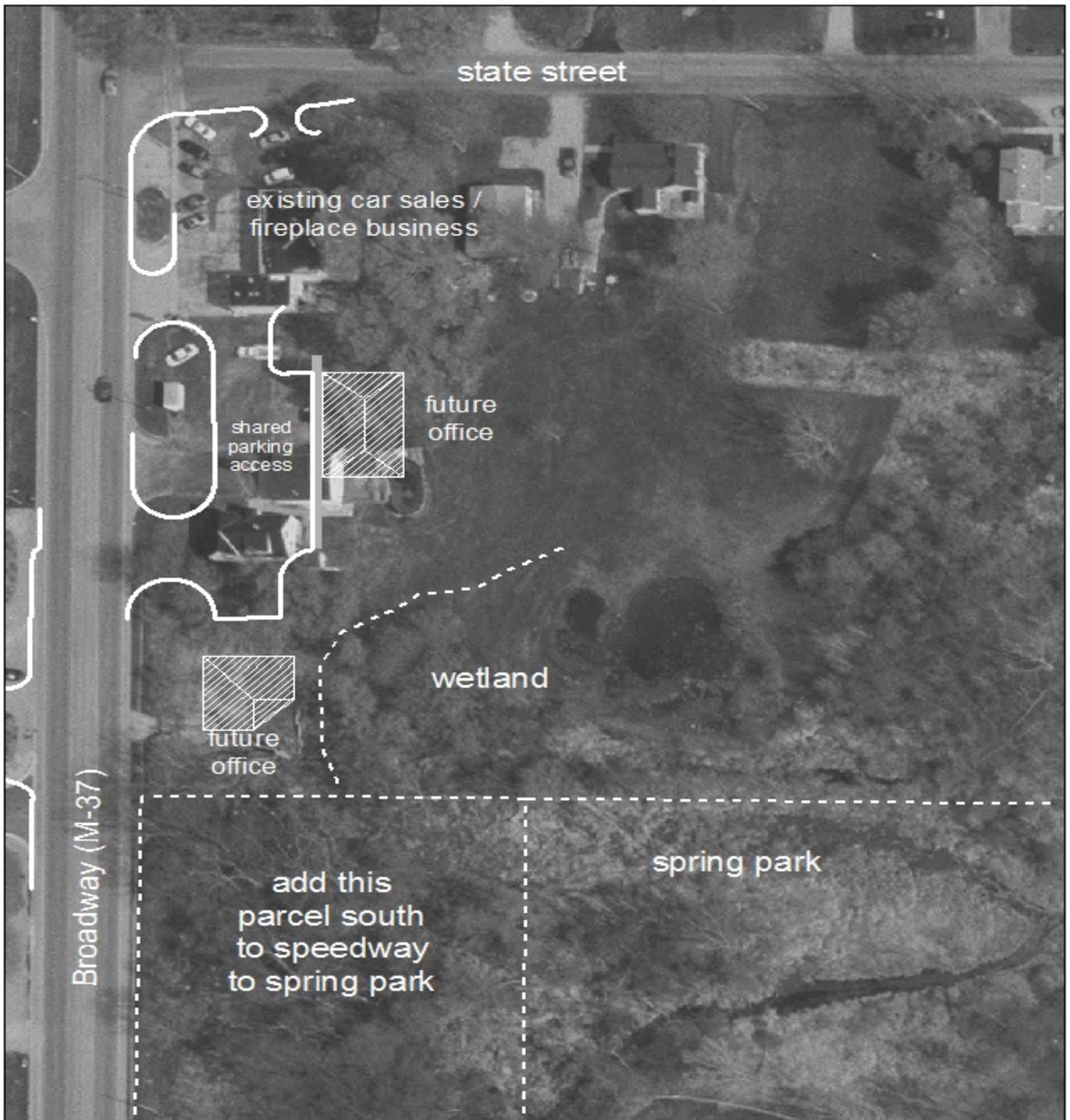
### **East side of Arlington Former Spring Street to Corner of West Main Street**



There are three parcels of land in this segment, each part of Block 45, Original Plat of Middleville. The north parcel has 132 feet of frontage along Arlington and about 215 feet of depth. The second parcel has 66 feet of frontage and 135 feet of depth. If combined, these two parcels offer opportunity for a mixed-use building with dedicated on-site parking. Access would be via a shared driveway in the former Spring Street right-of-way.

The corner parcel has 57 feet of frontage and 86 feet of depth. This parcel currently has a three-unit apartment building on it and does not contain sufficient site area for necessary on-site parking. This corner should be re-developed as a landscaped public plaza, ideally incorporating community announcement signage. Such signage would be used to provide information to the public regarding community events and activities throughout the year. The landscaped corner would create a very favorable impression of the Village at this very visible location.

**Map 15-11** depicts the conceptual plan for this segment of Arlington.



2007 - 2020

**MASTER PLAN**  
*Urban Design Concept*

*East Side Broadway*  
*State Street south to Parkland*

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1 inch equals 78.125 feet



**Map 15-12**

**Legend**

-  Building
-  Curb
-  Parking Lines
-  Sidewalk

**Design Notes:**

- \* Create service drive south from State Street via reciprocal access easements
- \* Infill Parcel for mixed use retail and/or office
- \* Acquire strip next to Spring Park for addition to park and to protect existing valuable wetland at north end of park
- \* Close existing driveways

**East Side of South Broadway  
South of State Street**

This segment of S. Broadway has limited development potential due to grade and wetland issues. The conceptual plan for this segment depicted on **Map 15-12** suggests two new freestanding buildings utilized for professional offices. Each building is modest in size due to the limited site area available.

Spring Park abuts some of the frontage lands. Due to steep slopes and limited depth between S. Broadway and the regulated wetland areas, it is recommended that the undeveloped land north of the Speedway gasoline station be acquired and preserved as a part of Spring Park.

### **North Side of West Main Street Thornapple River to M-37**

Originating with the 2003 Blueprint Plan, this neighborhood along West Main Street is considered a “transition” area. Currently, the old Downtown and commercial areas along M-37 are separated by this neighborhood. The Blueprint suggested this area for revitalization/redevelopment in a manner that (1) ties the traditional downtown and M-37 and (2) improves the downtown “gateway” appearance of the streetscape, building format and architecture. The intended style suggested 2-3 story “storefront” buildings with interior mixed use [*i.e. retail, office at street level with residential occupying upper floors*]. In today’s planning jargon, this format is sometimes referred to as a “live/work” arrangement.

The current conditions along the north side of West Main in this street segment vary as to use, building condition and building style. From the river to M-37 uses/occupancy are as follows: An embroidery business occupies a small storefront adjacent to the bridge; the vacant “baby bliss” building [*in very poor condition*]; and a single-family dwelling occupy the first block west of the river. North of these buildings are three single-family dwellings and an auto body shop. The former congregational church building occupies the first parcel west of Waters Street. This building is undergoing restoration and should be preserved. A former “auto repairs shop” occupies the next parcel and this building is in very poor condition. Two modest single-family homes occupy the next two parcels. A new duplex building occupies the next adjacent parcel and a new single-family dwelling is under construction on the second parcel from the corner of M-37. The corner parcel has a three-unit apartment building in poor condition.

The Planning Commission considered three different re-development approaches to this street frontage and backlands. First, was a traditional “downtown look” with zero building setbacks along West Main Street and zero setback side-yards.

The second approach considered was a modified “neo-traditional” format like the traditional downtown but with parking between the street and storefronts. The third approach was conventional form of development with typical front and side yard setbacks applied.

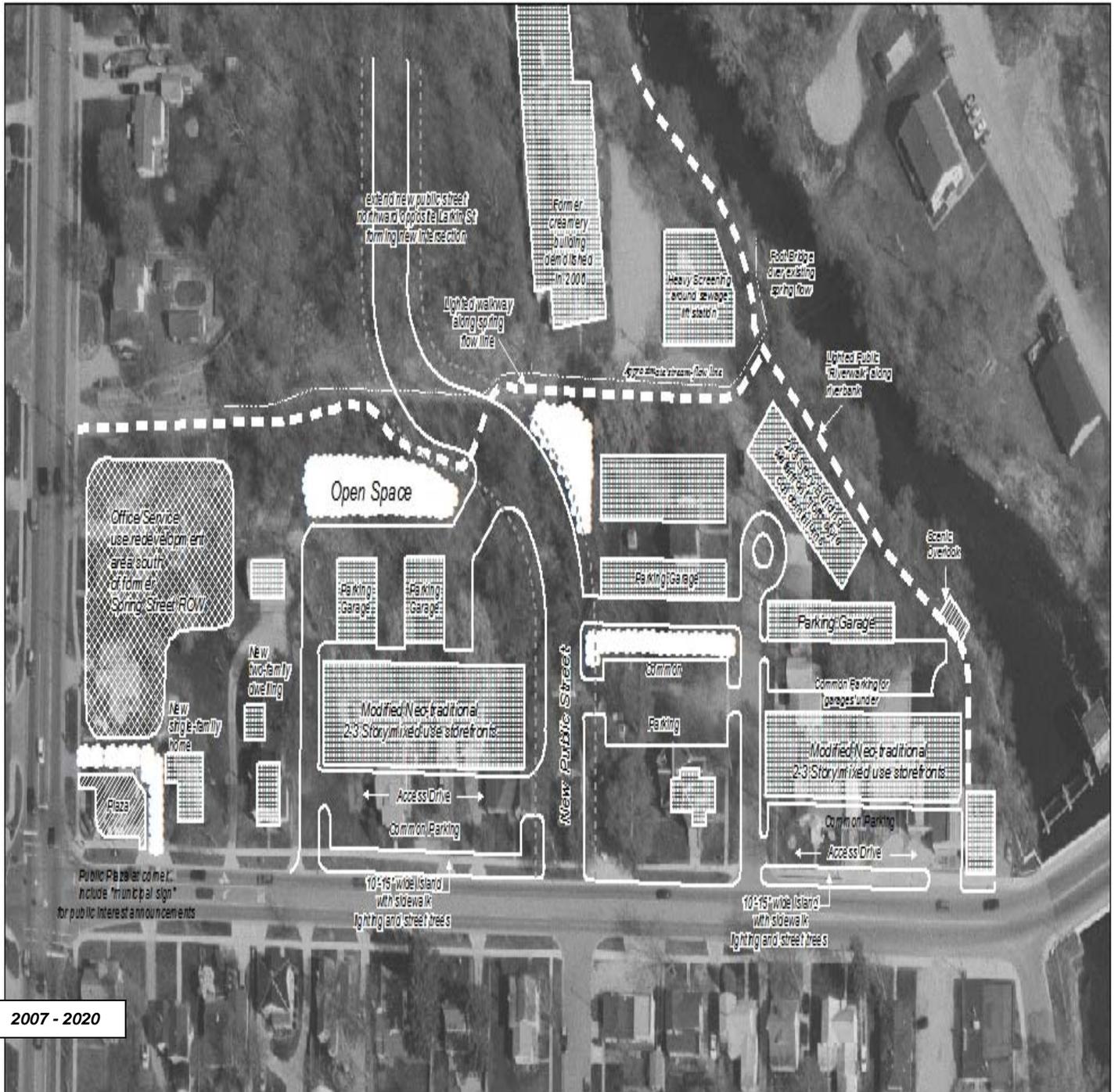
Following consideration of urban design options, the Planning Commission concluded the best approach to this segment of West Main Street would be the modified “neo-traditional” format, sometimes called “retro design”. Downtown Middleville once had numerous two and three story, storefront buildings. These buildings were built to the front lot line and had pedestrian entrances at street level. Merchants displayed their wares in large storefront windows and on the sidewalks.

The modified neo-traditional format includes specific design elements necessary to preserve the traditional downtown look and yet reflect contemporary parking needs.

Modified neo-traditional design elements include:

- (1) One row of angle parking on front of each building grouping, segregated from through traffic along Main Street,
- (2) Common access and service drive parallel to Main Street,
- (3) Front building setbacks reflecting one row of parking and service drive,
- (4) Zero setback side yards, except on corners,
- (5) Manage access points to Main Street.

**Map 15-13** depicts the modified neo-traditional design intended for this segment of West Main Street and immediate backlands. The urban design concept presented respects renovation of the church building and the two structures recently built. Of course, zoning provision in the existing Village code will need to be modified to reflect this design approach.



2007 - 2020

2006-2020  
**MASTER PLAN**  
 Urban Design Concept

Map 15-13  
 Conceptual Plan:  
 Modified Neo-Traditional Style

Special Planning Area  
 West Main Street - North  
 Side Bridge to M-37

1 inch equals 122.024838 feet  
 0 75 150 Feet

Legend	
	Curbs
	Buildings
	Road Lines
	Redevelopment Area
	Riverside
	Landscaping
	Plaza
	Stream Flow Line

Notes:  
 Compatible streetscape plan prepared by DDA for this segment of West Main Street during 2006-2007 period.

Close/remove existing Waters Street...  
 ROW vacated only after private development plan is approved by Village.

Maintain Spring Street ROW...vacate only after private redevelopment plan is approved by Village



The design calls for a public street extension northward opposite Larkin Street to gain access to lands further north, including Village-owned lands. This public street would eventually extend northward to connect with a new street access opposite Edwards Street [see Map 15-8].

**Map 15-14** provides a conceptual arrangement of possible future land uses further north of Main Street along the west bank of the Thornapple River. There exists a firm inter-relationship between the West Main Street frontage urban design concept, the immediate backland and land area to the north. Each area is dependent on common public street circulation and access, utility locations and is influenced by existing natural features such as stream flow, springs and wetland locations. Again, given the special conditions existing in this area, zoning code provisions will require modification to achieve the intended design.

The combination conceptual design shown on **Maps 15-13** and **15-14** requires public ownership of all riverbank areas and a public “river walk” throughout. Pedestrian access to the river walk from all private development sites in this entire area should be mandatory. The Village zoning code should be revised to implement this requirement.

Map 15-14

2007 - 2020

MASTER PLAN  
Urban Design Concept

Special Planning Area  
West Bank

Schematic Layout  
Natural Areas,  
Future Streets &  
Development Nodes



1 inch equals 22.5, 24, 25, 15 feet



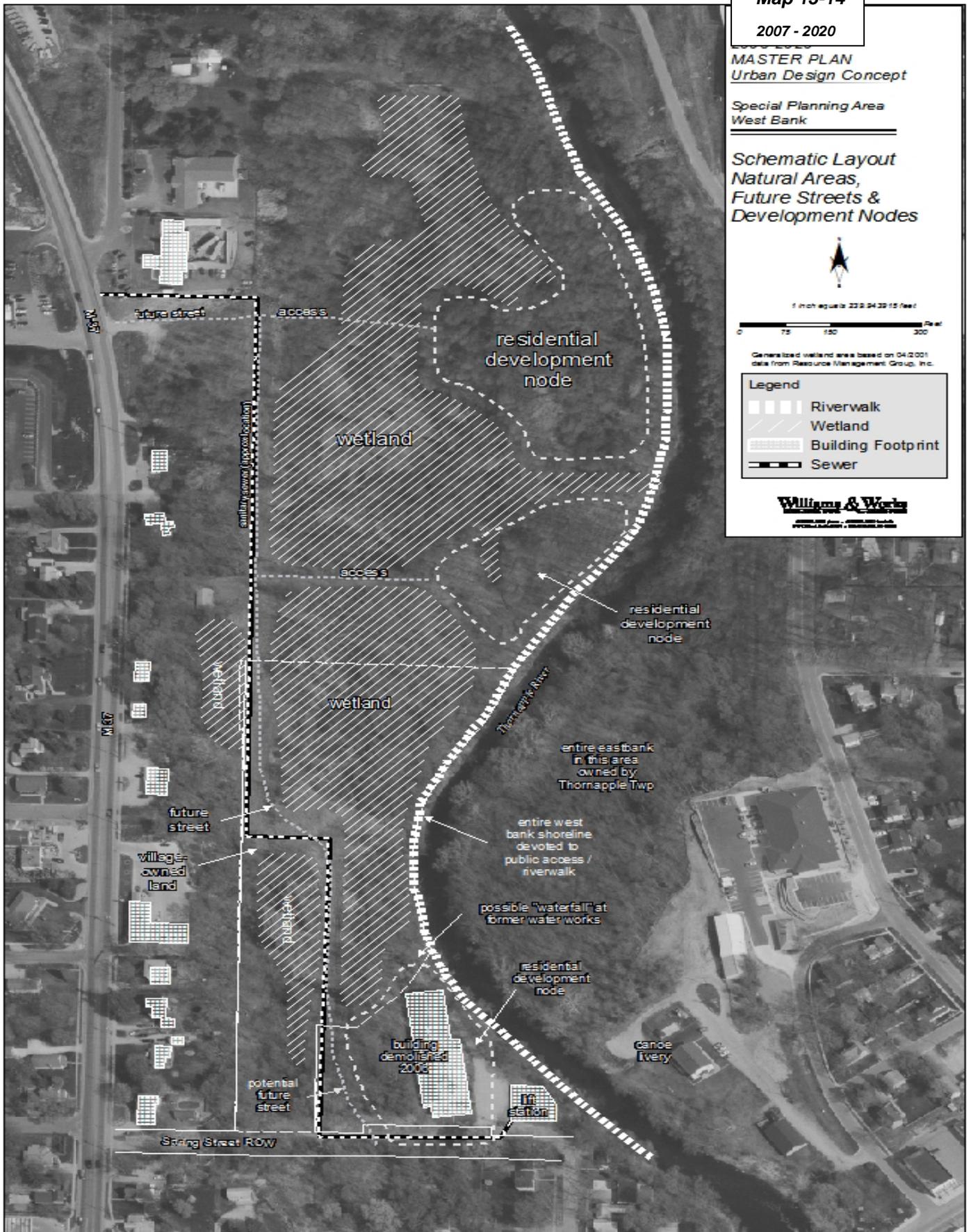
Generalized wetland area based on 04/2001  
data from Resource Management Group, Inc.

Legend

- Riverwalk
- Wetland
- Building Footprint
- Sewer

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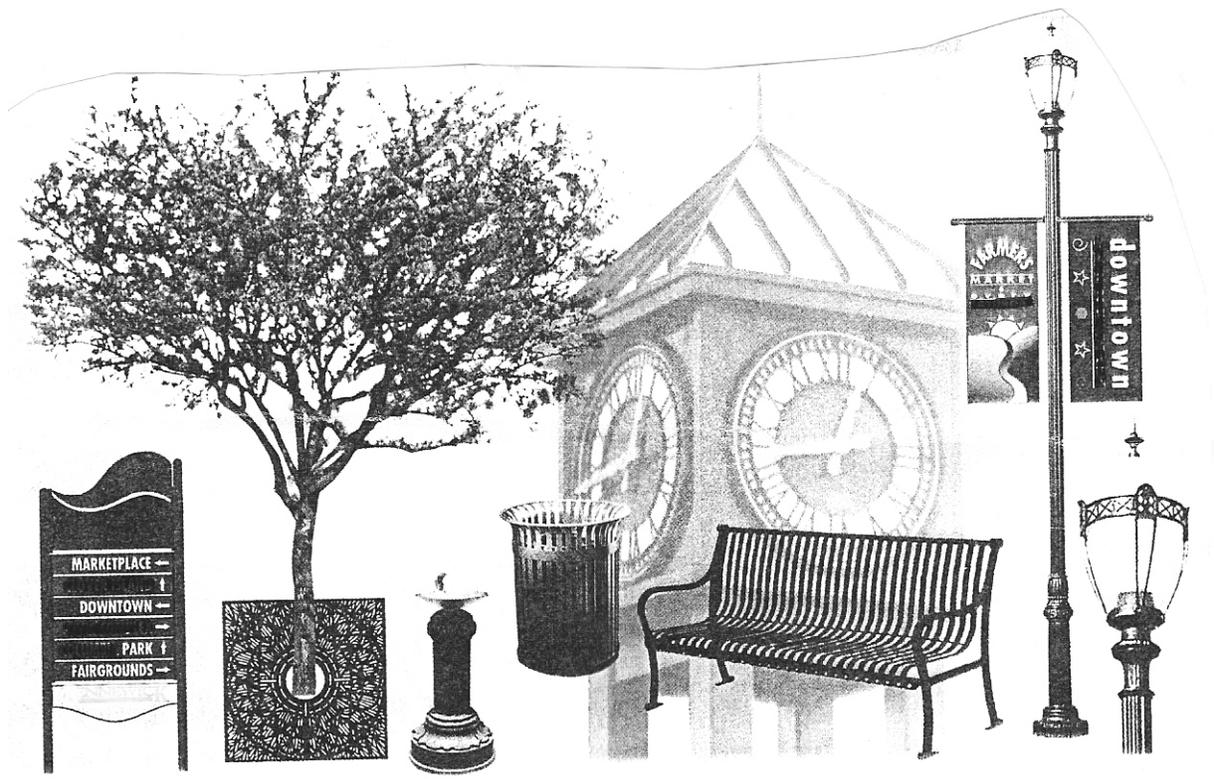
## Chapter 16

# IMPLEMENTATION STRATEGIES AND ACTIONS

Implementing this 2007-2020 Master Plan will require numerous short-term and long-term actions on the part of the Village. This chapter provides a full review of these actions including a) a description of each action, b) when the action should occur and c) follow-up measures required.

Because the Township and Village Planning Commissions have closely collaborated in preparing respective 2007-2020 Master Plans, some actions reviewed in this chapter require further collaboration and agreement for successful implementation, especially as applied to the Joint Planning Area [JPA] [see Chapter 9].

This chapter establishes the “work program” for the Planning Commission including various actions required to implement provisions of this plan. Changes to the zoning ordinances, strategies for the JPA, access management standards, storm water best management practices, subdivision and site condominium rules, capital investments, and maintaining this plan are matters discussed in this chapter.



## 1. Village Zoning Ordinance

This 2007-2020 Master Plan introduces new concepts and approaches for managing growth. The number of land use categories has increased, environmental policies regarding sustainable development have been put forth, a joint planning area has been identified for future urban and suburban growth and the concept of transferring land development rights from prime and important farm land to development sites has been introduced.

Each of the forgoing concepts and other elements of this 2007-2020 Master Plan will require amendments to the Village zoning ordinance. Topics to be addressed in the zoning ordinance during the 2007/2008 period include, but are not limited to:

- (1) Add zoning districts in the text that reflect and implement the Joint Planning Area future land use element.
- (2) Add provisions for Planned Unit Development incorporating non-contiguous parcels and transfer of development rights.
- (3) Implement access management ordinance governing access to M-37 and Village Streets and to implement special area plans in Chapter 15.
- (4) Create and adopt zoning districts implementing special planning area concepts within Chapter 15, including W. Main Street between the bridge and M-37; west bank north of W. Main Street to Edwards, and M-37.
- (5) Storm water management ordinance incorporating "best management practices".

- (6) Evaluate requirements for alternative pedestrian facilities [sidewalks, pathways, multi-use trails], connectivity between development sites and with waterfront and natural areas.
- (7) Prepare municipal design standards manual for all forms of land use and development.
- (8) Prepare and adopt construction standards for all forms of public infrastructure.
- (9) Amendments to revise special land use standards in all zoning districts.
- (10) Regulations addressing lands with shoreline on the Thornapple River that address setbacks, soil disturbance and tree clearing.
- (11) Other topics the Planning Commission deems necessary to implement provisions of the Master Plan.

## 2. Growth Management in the Joint Planning Area

Implementing the future land use plan for the Joint Planning Area [JPA] requires close and continued collaboration between the Township and Village. Lands in the JPA are within Thornapple Township and subject to its zoning and related ordinances. However, future development and in-fill within the JPA will require public utility services only available from the Village. As such, the Township and Village Planning Commissions have concluded that successful growth management in the JPA requires the following actions:

- (1) The Township and Village Planning Commissions will prepare and recommend enactment of common zoning provisions to be applied within

- the JPA that mirror future land use categories, density and related site development standards. The Township zoning ordinance will apply in the JPA until a development site is annexed. At the time formal annexation is concluded, the common zoning ordinance language of the Village will apply. The Village Council will, at the time of annexation, enact appropriate zoning on the development parcel such that applicable regulations are the same as those in effect prior to the annexation.
- (2) A permanent 6-person, [JPAC] Joint Planning Area Committee [JPC] will be established with 3 members from each Planning Commission. The JPAC will meet and give initial consideration to all new land developments proposed with the JPA. The JPAC will convene as needed based on information provided by the Village/Township Planner.
  - (3) The JPAC will determine whether the proposed land development conforms to the future land use plan for the JPA.
  - (4) If the development proposal does conform to the future land use plan, the JPAC will proceed to consider the following matters:
    - a. Preliminary site plan
    - b. Compatibility with adjoining land uses
    - c. Roadway access location(s)
    - d. Sufficiency of public sewer and water infrastructure to serve the proposed land use
    - e. Proposed storm drainage method
    - f. Whether Planned Unit Development rules are applicable to the proposed development.
  - (5) If the development proposed does not conform to the future land use plan, the JPAC will advise the proponent to revise plans in accordance with the future land use plan.
  - (6) If the proposed development conforms to the future land use plan the JPAC will prepare a written report to the Township Planning Commission regarding all matters considered in items 4(a-f) above and advise the proponent to proceed with the formal application.
  - (7) Formal application and companion information is filed by proponent with the Township Planning Commission.
  - (8) Township Planning Commission receives application and schedules public hearing, if required. At this time, the application materials are copied to the Village Planning Commission with a request for review and comment.
  - (9) The Thornapple Township Planning Commission review of the proposed land development will include a decision on when the land owner will petition the Village for annexation as a condition of development approval.
  - (10) If a development is granted approval or conditional approval by the Planning Commission, site grading or other construction activity may not occur unless and until a petition to annex real property has been

filed by the owner of the property with the Middleville Village Council and that petition has been approved by the Council and the Barry County Board of Commissioners.

- (11) Upon formal annexation, the Village Council will acknowledge and enact zoning district standards identical to those in effect within the Township prior to annexation.
- (12) When the development property is formally annexed, all documents relating to the approved land development will be transferred from the Township to the Village.

### **3. Subdivision and Site Condominium Control Ordinance**

This ordinance would replace existing zoning ordinance and subdivision ordinance provisions. The objective is to put subdivisions under the Land Division Act and site condominiums under the Condominium Act on equal footing. This Ordinance would include common standards for site improvements, limits on cul-de-sac length, connectivity requirements between properties, land developments, and related standards.

### **4. Storm Water Management Standards**

Enacted under general ordinance authority, this ordinance would implement Chapter 12 of the plan by creating so-called “best management practices” and apply to land development within those portions of the Village and Joint Planning Area that are

not served by an established public drainage district.

The ordinance would include storm drainage design standards, storm event frequency, preferences for on-site storm water filtration and retention, groundwater recharge and landscape requirements for permanent water features or basins that are part of the site storm water management facilities.

### **5. Access Management Standards**

Based on Chapter 15 of the Master Plan and recommendations contained in the 2004 Barry County M-37 Corridor Plan, an access management ordinance will be prepared by the Planning Commission and then be recommended to the Village Council.

The objective of this ordinance will be to establish minimum driveway spacing standards, site-distance criteria for new roadway intersections along M-37, and related design standards as well as major and local Village streets

This ordinance would be submitted to MDOT for review and recommendations prior to enactment.

### **6. Village Capital Improvements Program**

Public infrastructure investments by the Village directly impact physical development. According to the Municipal Planning Act, once a plan for development and change within the Village is enacted by the Planning Commission, public improvements may not occur unless “. . . *the location, character and extent thereof shall have been submitted to and approved by the*

*Planning Commission.*" [MCLA 125.39], unless overturned by a 2/3 vote of the entire membership of the Village Council.

It is the intent of the Planning Commission, working with the Village Council, to prepare an annual public capital improvements program covering current year and four additional years.

## **7. Master Plan Maintenance**

Following enactment of the 2007-2020 Master plan for the Village of Middleville, the Planning Commission will periodically undertake full evaluation of content and relevancy of the Plan.

Consistent with the Municipal Planning Act, the Planning Commission will conduct full review of the Master Plan not less than every five years. Whenever the Commission concludes amendments to the Master Plan are needed, it will draft such changes, confer with adjacent local governments and the County, hold public hearings, and consider adoption of such amendments to this 2007-2020 Master Plan.