

**ALAIEDON  
TOWNSHIP  
MASTER  
PLAN**

**ALAIEDON TOWNSHIP  
INGHAM COUNTY, MICHIGAN**

# **ALAIEDON TOWNSHIP MASTER PLAN**

Prepared By The  
**ALAIEDON TOWNSHIP  
PLANNING COMMISSION**

With The Assistance Of  
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Adopted by the Alaiedon Township Planning Commission  
on December 17, 2002

**ALAIEDON TOWNSHIP  
INGHAM COUNTY, MICHIGAN**

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# Chapter One

# OVERVIEW

## Introduction

This Chapter provides an overview of Alaiedon Township and the Master Plan's role, importance, and preparation process. It presents the framework for what follows by defining what the Master Plan is and what it is intended to accomplish. Understanding the fundamentals of the Master Plan will enable Alaiedon Township residents and officials to appreciate the role it plays in ensuring the future welfare of the Township, its residents and its resources. Embracing this Plan as a vital tool in preserving and enhancing the public health, safety, and welfare of the Township is essential if this Plan is to be effective.

## What is the Master Plan?

### Purpose

Just as individuals and families plan for their future well being, so must municipalities. Just as individuals may open savings accounts in order to purchase new farm equipment five years in the future, or develop plans for a larger home for a growing family, municipalities must look to the future and take specific actions to address the current and future needs of the community. Such actions may involve improvements to the roadway network, improvements to the level of emergency services, and the pursuit of new local employment opportunities.

The Master Plan is a policy document that identifies how growth and associated land development should be guided to best ensure the future welfare of the community. The following key words and phrases can generally describe the Master Plan:

**FUTURE ORIENTED:** The plan concerns itself with long-range planning to guide and manage future growth and land use. The plan is not only a picture of the community today, but a guide to how the community should evolve over the next ten to twenty years in response to growth and community aspirations.

**GENERAL:** The plan establishes broad principles and policies to address future land use.

**COMPREHENSIVE:** The Plan is comprehensive in that it addresses all principal types of land use and the practical geographic boundaries of each.

**A PLAN:** The Plan is a specific tangible document which consists of both text and maps, a key portion of which presents and illustrates the Township's policies regarding its planned future land use pattern and associated public services.

**DYNAMIC:** The Plan is intended to be continually evolving in light of the aspirations of local residents, changing conditions in the Township, and new strategies to manage growth.

The Alaiedon Township Planning Commission, under the authority of the Michigan Township Planning Act, P.A. 168 of 1959 (as amended), prepared this Master Plan. The Act provides for the development of plans by a Planning Commission for the purposes of, in part:

*"...to promote public health, safety, and general welfare; to encourage the use of resources in accordance with their character and adaptability; to avoid the overcrowding of land by buildings or people; to lessen congestion on public roads and streets...and to consider the character of each Township and its suitability for particular uses judged in terms of such factors as the trend in land and population development."*

This Master Plan is not a regulatory document, but a "policy plan" to be implemented through regulatory tools. For example, though the Master Plan is not a zoning ordinance, the Master Plan's recommendations and policies will serve as a basis for updating the current Alaiedon Township Zoning Ordinance. In fact, the Michigan Township Zoning Act which provides Michigan Townships with the statutory authority to adopt zoning regulations stipulates that a municipality's zoning ordinance "shall be based upon a plan..." This Master Plan addresses this statutory requirement and maintains a strong legal foundation for the Township's zoning regulations.

### Elements of the Master Plan

In addition to this introductory chapter, the Alaiedon Township Master Plan consists of the following key components:

- 1) A discussion of important planning issues facing the Township today, and associated goals and objectives that address these issues (Chapter Two).
- 2) The planned future land use pattern for the Township (Chapter Three).
- 3) The planned future delivery of public services in the Township (Chapter Four).
- 4) Background studies that provide a review of existing conditions and trends in the Township (Appendices).

### Importance and Application of the Master Plan

The importance and application of the Alaiedon Township Master Plan are reflected in both the long-term interests of the Township and the day-to-day administration of the Township's planning and zoning program.

#### Long Term Interests

There are a number of interests shared by residents and officials of Alaiedon Township today that can be expected to continue for years to come and be similarly shared by new future residents and Township officials. Some of these important interests include:

- Minimizing increased tax burdens.
- Protecting farmland, open spaces, natural resources, and rural character.

- Ensuring appropriate land use to meet the consumer and employment needs of residents.
- Ensuring appropriate land use and adequate services to protect the public health, safety, and welfare of residents and visitors.

The Master Plan supports these long-term interests by providing a future-oriented strategy that aggressively seeks to protect them. Intensive development without adequate public services to meet the demands of such development, as well as development which places excessive demands upon the Township's natural resources (on-site sewage disposal, potable water quality, etc.) can lead the Township into a future of tremendous social and environmental risks which will seriously threaten the public's health, safety, and welfare. Chapters Three and Four establish specific future land use and public services strategies to secure these and other long-term interests.

#### Day-To-Day Administration

The Alaiedon Township Master Plan plays an equally important role in the day-to-day planning and zoning efforts of the Township:

- Advisory Policies: The Plan is an official advisory policy statement which should be readily shared with existing and prospective landowners and developers to inform them of the long term intentions of the Township regarding land use and, thus, more closely integrate development proposals with the policies of the Plan.
- Regulatory Programs: The Plan establishes a practical basis for the Township to revise, update, or otherwise prepare regulatory programs intended to ensure that the policies of the Plan are implemented, including zoning and land division regulations.
- Review of Land Development Proposals: Chapter Two includes a list of Township goals and objectives which should be reviewed in light of future proposed rezoning requests, site plans, and related land use proposals, to further establish a record upon which the proposal can be evaluated. Equally important, Chapter Three provides policies regarding the planned future land use pattern in the Township. This Chapter also provides valuable reference points upon which land use proposals should be evaluated.
- Public Services Improvements: The cost-effective use of Alaiedon Township's tax dollars requires the identification of a planned future land use pattern in order to pinpoint future population centers in the Township and areas planned for

commercial and/or industrial growth. While some areas in the Township may require future improvements to public services and infrastructure, such as roads and fire protection, commercial/industrial areas and population centers typically require higher levels of public services. This Plan provides the Township with the ability to prepare for and better pinpoint areas of future need, rather than always playing "catch-up" while the Township's health, safety, and welfare may be at risk. Chapter Four provides importance guidance in this area.

- **Intergovernmental Coordination:** This Plan provides the basis for Alaiedon Township to communicate effectively with its neighbors regarding both the impact of their planning and zoning actions and opportunities for mutual gain through coordinated efforts in the areas of land use and public services.
- **Factual Reference:** The Plan includes a factual overview of relevant trends and conditions in Alaiedon Township. This factual profile can educate local officials and residents and aid in the review of development proposals, encourage constructive discussion of planning issues and policies, and serve as a base line for future studies.

## How The Plan Was Prepared

During the late 1990's, Alaiedon Township officials grew increasingly concerned about the proper management of future growth and development, and the ability of its zoning regulations to ensure the type of future Township character that its residents support. To focus greater efforts in the area of long term community planning, the Township initiated the development of a new Master Plan. The Township sought the expertise of a professional planner to assist them with the preparation of the Master Plan document. A strategy with multiple tasks was developed to guide the Plan's preparation and the tasks followed a purposeful sequential process that took approximately one year to complete.

The Planning Commission's initial efforts were directed at establishing a database about the Township for use during the planning process. This involved a review of physical and cultural conditions in the Township including soils, topography, road network, existing land use patterns, public services, and demographic characteristics.

A mail survey was administered to gain insight into local attitudes on land use, development, and public services. Some of the dominant attitudes expressed by the survey respondents included:

- manage growth and development.
- maintain rural character.
- protect natural resources and farmland.
- limit the amount of residential development in agricultural areas.
- limit commercial and industrial development.

The Planning Commission then directed its efforts to identifying the important planning issues facing the community and established a set of goal and objective statements to address these issues and guide the policies of the Plan.

Several alternative future land use patterns and strategies were then developed based upon the data collected to date, and the goals and objectives statements. The Planning Commission studied these alternatives and selected the most preferable. Based upon the selected alternative, the Planning Commission assembled a complete draft of the Plan suitable for presentation to the residents of the community. The Planning Commission held a public hearing on the draft Plan on November 21, 2002 and the Plan was finalized and adopted by the Planning Commission on December 17, 2002.

## Alaiedon Township Overview

The following is a brief overview of Alaiedon Township today. A more detailed review of Alaiedon Township trends and conditions can be found in Appendix A, B, and C.

Alaiedon Township is located in central Ingham County in the south-central region of Michigan's Lower Peninsula. Principal surrounding townships are Meridian to the north, Wheatfield to the east, Vevay to the south, and Delhi to the west. The City of Mason, with a population of approximately 6,700, abuts the Township's southern border and extends northward to occupy approximately 170 acres in the congressional boundary of the Township. Aside from suburban Meridian Township to the north and the cities of Lansing, East Lansing, and Mason, the landscape of the surrounding communities is dominated by agriculture and scattered residential development.

Regional access to Alaiedon Township is provided by Interstate 96 (I-96) traveling east-west across the Township's northern periphery, with an interchange at Okemos Road. In addition, US 127 travels north-south along the Township's western periphery. Alaiedon Township's local roadway network generally exhibits a grid-like pattern, characteristic of the majority of townships in Michigan. The busiest corridors are Jolly Road along the Township's northern border, the I-96/Okemos Road interchange and north on Okemos Road to Jolly Road, and Cedar Street in the Township's southwest corner.

The Township's topography can be generally described as level to nearly level. Drainage is facilitated through a network of watercourses. The most dominant is Sycamore Creek, which flows north through the far western periphery of the Township. With the many secondary drains that feed it, Sycamore Creek drains the vast majority of the Township. Mud Creek and its tributaries drain much of the southern and central portions of the community and flows into Sycamore Creek.

There are approximately 3,000 acres of wetlands in the Township, comprising 13% of its landscape. The wetlands are located throughout the Township but are most prominent along the stream and creek corridors, particularly that of Sycamore Creek. In addition to the lowland woodlands that comprise portions of the wetlands, there are approximately 650 acres of upland woodlands in the Township. These woodlands are predominantly characterized by such species as sugar and red maple, elm, beech, cherry, basswood, and white ash. The upland woodlands are scattered somewhat evenly throughout the Township and typically range between 10 and 30 acres in size.

Well drained to poorly drained loamy soils predominate in Alaiedon Township and account for approximately two-thirds of the Township area. The balance of the Township is characterized by primarily sandy soils. According to the Natural Resources Conservation Service, nearly the entire Township presents severe limitations to septic systems. A minimum of one to two-acre lots is frequently necessary to provide for adequate drainfield operation. While the area soils present primarily severe limitations to septic drain fields, approximately 75% of the Township is classified by the Natural Resources Conservation Service as "prime farmland."

Most of the Alaiedon Township landscape is dominated by farming operations, woodlands, wetlands other open spaces, and scattered residences. The principal exceptions include the northern perimeter of

the Township along segments of Jolly and Okemos Roads, and the far southwest corner near the City of Mason. These locations are characterized by office and retail development and, in the southwest corner, increased residential, commercial and industrial development. Approximately 10% of the Township area has been developed for residential, commercial, industrial, and/or related urban uses.

Farming operations occupy approximately 60% of the Township acreage. While farming is present throughout the Township, it is less prevalent west of US 127, along Jolly Road, and in the Township's southwest region. Nearly all of the farm acreage is used for crop production with only limited and small-scale livestock operations.

Residential development comprises approximately 8% of the acreage in Alaiedon Township. The 2000 Census recorded 1,154 dwelling units, 58 more than the 1,096 dwellings recorded in 1990. Of the 1,096 dwellings in 1990, 1,040 were single-family dwellings (94.9%), 28 of which were mobile homes. Nearly all of the remaining 56 dwellings were two-family dwellings. The vast majority of the mobile homes (approximately 25) are located in the Township's single manufactured housing community near the intersection of Wolverine and Harper Roads.

While the original residential settlement pattern of farm dwellings on parcels approaching 40 acres or more in size is evident today, the majority of dwellings are located on smaller two, five and ten-acre parcels stripped along Section-line roads. A number of platted subdivisions have also evolved and are scattered throughout the Township. Nearly all were established prior to 1970.

Commercial development covers approximately 450 acres and is primarily limited to the Okemos/Jolly Roads areas. Jolly Road, the boundary between Alaiedon Township and Meridian Township, has evolved as a commercial corridor between Hagadorn Road and one mile east of Okemos Road. Most of the Jolly Road development in Alaiedon Township within one-half mile of Okemos Road is comprised of office park developments. More traditional strip commercial development has expanded incrementally west of the Woodlands office park to Hagadorn Road. Commercial development along Okemos Road, north of I-96, is primarily limited to service stations and both fast-food and traditional restaurants.

The Jackson National Life office headquarters, situated at the southwest corner of the I-96 interchange, is the Township's largest commercial development. The primary building and other support facilities, including parking and a child care facility, cover approximately 35 acres and includes approximately 250,000 square feet of floor area in a four-story building. This development is the result of a 425 Agreement with the City of Lansing (Public Act 425 of 1984).

In addition to the commercial development in the Okemos/Jolly road areas, there are several businesses along Cedar Street in the Township's southwest corner, including a water adventure park, small medical office, and a home improvement business. Industrial development is generally limited to the Dart Container Company, also located on Cedar Street and adjacent to U.S. 127, and areas along Jolly Road between Hagadorn and Hulett Road, including the Phillips Drive industrial area.

Public sewer and water serve only limited portions of Alaiedon Township. Areas served include the Jolly/Okemos Roads business area, and approximately 250 acres directly east of Hagadorn Road between I-96 and Jolly Road. Public water is also available along Hulett Road and College Road, south of Dell Road. The City of Mason provides sewer service to abutting Dart Container Company directly north of the City. Alaiedon Township receives fire protection services from its neighbor to the west, Delhi Township. Police protection services are provided by the Ingham County Sheriff's Department.

## Chapter Two

# PLANNING ISSUES, GOALS & OBJECTIVES

### Introduction

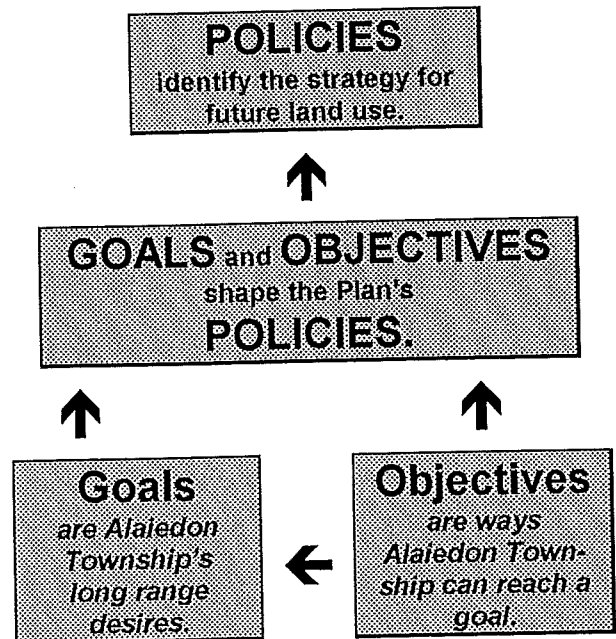
The primary goal of this Plan is to establish a basis for future land use and public services in Alaiedon Township. Through the development of this Plan, the Township chose to be actively involved in guiding and shaping future growth and development in the community and not allow the community to evolve merely by chance. To effectively plan for the Township's well being with regard to future land use and public services, it is necessary to identify important planning issues facing the community and clarify its long term goals and objectives. Following is a presentation of these planning issues and related goals and objectives.

### Planning Issues, Goals & Objectives

A number of key planning issues are apparent today. These issues vary in scope and are clearly inter-related. The future quality of life and character of the Township will be largely shaped by the Township's strategy in dealing with these issues. Each issue presented in this Chapter is followed by a set of goal and objective statements. Planning goals are statements that express the Township's long range desires. Each goal has accompanying objectives which are general strategies that the Township can pursue to attain the specified goal. For example, a goal of the Palomino family may be to open a commercial stable in Alaiedon Township, while two of the family's objectives may be to seek a loan and meet with a real estate agent to look at properties.

The goals and objectives are important for several reasons:

- The goals and objectives provide current and future residents of Alaiedon Township with an overview of the intended future character of the Township.
- The goals and objectives identify and outline the basic parameters which should be used in guiding land use and public services policies in the Township.
- The goals and objectives serve as references upon which future rezoning and land development decisions can be evaluated.



Goals, Objectives, and Policies of the Plan

The planning issues, and associated goals and objectives, are divided into the following major categories:

- Growth Management
- Community Character and Environment
- Farmland Protection
- Residential Development
- Commercial Development
- Industrial Development
- Circulation
- Regional Coordination

The planning issues presented in the following pages are not intended to be all inclusive. Rather, they are presented as the primary issues that the community must address as it establishes a future for itself. These issues will evolve over time and should be re-examined periodically and the appropriate modifications made.

## Growth Management

Though the past 30 years has witnessed a slowing growth rate in Alaiedon Township, its growth rates far outpaced that of the County and State as a whole. The Township's population grew by 41% between 1970 and 2000. It is reasonable to anticipate increased growth pressures in the coming 20 years. Alaiedon Township is a very desirable place to live, with abundant natural resources and open spaces, easy access to highways and employment centers, an overall rural character, and nearby retail and other urban services. It is reasonable to anticipate that the population of the Township may increase by 1,000 persons or more during the next 20 years (see Appendix C). Based upon an average household size of 3.0 persons, such a population increase would yield approximately 333 new households. The development of a single 80-acre parcel alone, as a platted or condominium subdivision, could potentially yield 40 new dwellings and 120 new residents. The character and quality of life will be impacted by the way the Township chooses to manage future growth and development. Managed growth can minimize unnecessary loss of natural resources including farmland; preserve the Township's existing character and environmental integrity; encourage orderly land development; assure adequate public services and wise expenditures of Township funds; and limit traffic hazards and nuisances.

Tax revenues dictate, in part, the extent and quality of public services. Although development will increase the Township's tax base, the same development will place additional demands upon public services. Contrary to traditional planning wisdom and thought, recent research has shown that development does not necessarily "pay its way," particularly as it applies to traditional single family residential development. Development patterns that minimize new public costs should be sought where practical.

In this regard, it is advantageous to maintain a compact form of growth and development and, to the extent it is practical, locate higher density and intensity development near or adjacent to areas currently being served with higher levels of public services or anticipated to be served by such services in the future. Current police and fire protection services, and roadway network, appear to be meeting the present needs of area residents. High growth rates that may be brought on by market conditions and zoning provisions will necessitate greater expenditures of Township funds. Maintaining the current quality of public services, let alone the pursuit of improvements, can be very difficult in the face of unmanaged growth and development.

This Plan must provide a strategy for effectively shaping and guiding future growth and development in a feasible manner, consistent with the aspirations of the citizenry of the Township and the opportunities and constraints presented by its natural and cultural characteristics.

Individual properties and land uses exist within a network of adjoining and nearby properties and land uses. This weave of uses helps to establish the character of the Township. The accommodation of growth and development should assure compatibility between land uses and the preservation of the dominant rural character of the community.

***GOAL:*** *Guide future development in a manner that assures land use patterns compatible with public facilities and services and the cost-effective use of tax dollars, and the preservation of natural resources, existing land use patterns, and rural character.*

## Objectives

- 1) Identify locations in the Township by sound planning and zoning that are appropriate for agricultural, residential, and non-residential use, taking into account the constraints and opportunities presented by the Township's natural features and the availability of public facilities and services, including road infrastructure.



- 2) Preserve the Township's natural resources through a coordinated future land use strategy and related implementation tools that permit reasonable use of land while discouraging unnecessary destruction or loss of natural resources, including farmland resources, wetlands and woodlands.
- 3) Establish effective land use and development review regulations to ensure development is compatible with the policies, goals and objectives of this Plan.
- 4) Guide development into areas where public facilities and services have adequate capacity to accommodate the growth and increased development intensities, and where the provision or expansion of public facilities is cost-effective.
- 5) Prohibit new growth and development that requires levels of public facilities and services not available, until the time such levels of services become available.
- 6) Provide regular opportunities for substantive public input on growth and development issues facing the Township.
- 7) Separate incompatible land uses by distance, natural features, or man-made landscape buffers that adequately screen or mitigate adverse impacts.
- 8) Wherever legally permissible, local regulations should require new developments to pay to the Township for the direct and indirect public services costs associated with that development. These costs should not be imposed on existing residents, except where public interests and benefits may be at stake.
- 9) Discourage public services improvements that will have the effect of encouraging excessive growth and development, or development at a rate beyond the Township's ability to ensure adequate public health, safety, and welfare, or development in areas of the Township not designated for such growth.
- 10) Continually monitor local attitudes about public facilities and services, including police and fire protection, water and sewer, and recreation.
- 11) Explore options to address identified public service and/or facility needs and pursue strategies to address such needs.

## Community Character and the Environment

The protection of the Township's rural character and natural resources is extremely important to the residents of Alaiedon Township. "*Rural character*" is a subjective quality, but is typically associated with an overall perception of limited urban development, and extensive open spaces comprised of farmland and/or other open landscapes including woodlands, wetlands, and fields. These elements are important in shaping the character of the Township, and provide vital environmental roles including wildlife habitats, flood control, water purification, groundwater recharge, and air quality. The Township has abundant natural resources and sensitive environmental features. Preservation of these resources can be very difficult because the process of encroachment can occur slowly. Substantial damage to an entire ecosystem frequently occurs over a long period of time.

Residents strongly support the existing rural character of the community and its resources, and want these features to be important parts of the Township's future. Effective protection of rural character and the natural environment does not require the prohibition of growth and development. Managed growth and development encourages the continuation of the Township's overall rural character. The preservation of rural character and environmental resources in the face of growth and development is dependent upon site development practices that actively incorporate the protection of open spaces, natural resources and environmental ecosystems into the development plan. Limitations on the extent to which suburban and urban development patterns are permitted to encroach into more rural and resource-rich areas are an important part of the equation.

Recognition of the more urban pockets, such as the Jolly/Okemos Roads area and Cedar Street, is equally important. These areas contribute to the overall fabric of the Township and its character. The manner in which these areas are maintained, expanded, and/or enhanced will similarly impact the perception of these areas, their contributions to the community, and the extent to which they are a valued component of the community.

Increased environmental knowledge, awareness, and education, when incorporated into a comprehensive planning strategy, can minimize the potential for environmental degradation. Establishment and protection of interconnected systems of natural/environmental areas, including wetlands, woodlands, stream corridors, and open fields can provide a diverse and



viable habitat for wildlife and native plants. Zoning and related development regulations can provide for the protection of the Township's natural resources and rural character.

**GOAL:** *Preserve the dominant rural character of Alaiedon Township and its environmental resources and integrity.*

### Objectives

- 1) Encourage land development designed in scale with existing developed areas and the dominant rural character of the community, through reasonable standards addressing density, building size, height, and other development features.
- 2) Encourage land development which actively strives to preserve open spaces as part of a development project (woodlands, wetlands, and fields), by use of such tools as conservation easements, land trusts, and more flexible development standards.
- 3) Encourage the maintenance of historically significant structures and a structurally sound housing stock, and the rehabilitation or removal of blighted structures and yard areas.
- 4) Ensure that the quantity and quality of new development does not unreasonably create increases in air, noise, land, and water pollution, or the degradation of land and water resource environments including groundwater.
- 5) Increased limitations should be placed on development densities and intensities in environmentally sensitive areas, and all development should be in compliance with applicable local, county, state, and federal regulations.
- 6) Review proposed development in light of its potential impact upon wetlands, woodlands, and other natural resource areas.
- 7) Educate the public about waste management and the Township's fundamental reliance upon groundwater resources for potable water supplies and the potential detrimental effects of irresponsible land use and development practices.
- 8) Recognize the special environmental role of the Sycamore Creek, Mud Creek, Talmadge Drain and other key drainage corridors and discourage development that will disrupt their natural character, including the wetland, woodland, and other wildlife habitats of the corridors.

### Farmland Protection

Alaiedon Township has, historically, been a strong farming community. Today, approximately 60% of the acreage in the Township is devoted to agricultural use. However it is important to note that the number of farms in the Township has declined over the years, as has the total acreage devoted to farming. Still, this decline has not been as pervasive as in other areas of Ingham County and Michigan as a whole. Adjacent Townships to Alaiedon including Meridian to the north and Delhi to the west suggest increasing urban pressures on Alaiedon Township's farms and farmlands

Factors that will encourage the conversion and disinvestments in farming operations include the agricultural economic environment combined with the increasing developmental value of land. Permitting a comparatively high level of residential development in a community's agricultural area will encourage residential encroachment of farmlands, increased land use conflicts between farm and non-farm residents, and higher property assessment values and a decreased long-term business environment for agriculture – all of which collectively hinder the long term economic viability of the farm operations.

Much of Alaiedon Township farmland is considered to be "prime" by the Natural Resources Conservation Service. The farmland resources provide important food and fiber to both local and regional populations, are an important source of income, and contribute to the economic stability of the local economy. Farmland has been found to typically generate more municipal revenues than the costs associated with the municipal services it requires. Public sentiment in the community strongly supports the preservation of farmland and placing limitations on residential encroachment.

Effective farmland preservation is dependent upon the management of both the number and size of new non-farm lots, particularly when combined with voluntary farmland protection strategies including PDR and TDR. In the last few years there have been efforts to establish a number of local and state programs and initiatives to provide other options to landowners. One such important program is the Purchase of Development rights (PDR), whereby a landowner can voluntarily sell the development rights to a governmental body in turn for placing an easement on the land prohibiting future non-farm development.

Of equal importance is the opportunity for Transfer of Development Rights (TDR). This strategy enables a landowner to transfer (through purchase) the farm parcel's development rights to another parcel in an

area planned for growth and development. Both the sale and transfer of development rights provides landowners the opportunity to realize the development value of their land without having to actually develop it. Under both programs, the other private property rights remain in tact. The protected land remains in private ownership and can be sold to anyone at any price. However the land cannot be developed for residential, commercial or industrial purposes.

In Alaiedon Township, the existing concentration of agricultural operations is on large parcels and there has been a comparatively limited extent of residential encroachment into these farm areas. These conditions create the potential for the preservation of farmland, which is not the case in many other townships in Ingham County. As residential encroachment increases, the viability of farm operations and the preservation of farmland resources decrease. In such cases, attention begins to focus more on the preservation of open spaces and rural character.

The Township must recognize the economic and other challenges facing the local farming community. The Township must also recognize the economic benefits of local farm operations not only for their productive capacity and contribution to the local economy, but also for their limited demand on public services, infrastructure, and township revenues. If Alaiedon Township can implement viable preservation options to owners of farmland, it can stabilize and strengthen the industry long-term and benefit the community as a whole.

***GOAL:*** *Actively encourage the continuation of local farming operations and the long-term protection of farmland resources, including: 1) the establishment of agricultural zoning provisions consistent with the needs of modern agriculture; and 2) the creation of voluntary strategies, such as the purchase and transfer of development rights (PDR, TDR), that will economically contribute to the continuation of agriculture and the long-term protection of farmland resources.*

**Objectives:**

- 1) Identify areas that are able to support long-term farming, and minimize land use and other hindrances to agriculture, through complementary zoning provisions.
- 2) Minimize potential land use conflicts in designated agricultural areas by limiting the encroachment of incompatible land uses and establishing a Right-to-Farm disclosure program designed to insure that new builders/owners of homes in designated agri-

cultural areas are aware of the fact that the primary and preferred use of land in such designated agricultural areas is agriculture. The statement should provide notice to new homeowners to expect certain odors, noises, dust, and use of crop food and crop protection products.

- 3) Limit the amount of non-farm residential development permitted in designated agricultural areas and, to the extent such development does occur, discourage large acreage lots that unnecessarily consume and accelerate the loss of farmland acreage.
- 4) To the extent that residential development occurs in agricultural areas, implement strategies designed for the development to be placed on less productive farmland.
- 5) Develop new strategies that will minimize disturbances to, and premature destruction of, farmland areas by responsible and innovative development and site planning including clustering/open space zoning.
- 6) Incorporate zoning strategies to provide buffer areas between new residential developments and abutting agricultural areas.
- 7) Support P.A. 116 farmland preservation agreements.
- 8) Actively support the establishment and funding of a voluntary Purchase of Development (PDR) program administered at the county or regional level under PA 262 of 2000 or other authorizing legislation. Aggressively communicate the needs of Alaiedon Township for state and federal cost sharing for PDR.
- 9) Implement a farmland preservation program that enables the development potential of a farm parcel in an important farmland preservation area (such as the Primary Agricultural Area discussed in Chapter Three) to be transferred to a parcel in a designated growth area (such as the Suburban Residential Area discussed in Chapter Three) in the form of a density bonus.
- 10) Prohibit the extension of municipal utilities (such as sewer and water) into designated agricultural areas unless such extensions are coordinated with a PDR and/or TDR program.

## Residential Development

Residential development will be the major land use change in the coming ten to twenty years. Alaiedon Township is a very attractive place to live for many prospective residents. The Township has abundant natural resources and open spaces, an overall rural character, close proximity to desirable urban services and retail centers, and excellent regional access to near and distant employment centers. Principal limitations to new residential development are largely related to environmentally sensitive areas, the ability of area soils to accommodate septic drain fields, comparatively limited public services, the ability of the Township to provide adequate public services to meet the demands of the increased residential development, and balancing residential growth with farmland resources protection interests.

Alaiedon Township is in a position to offer varied housing opportunities. Rural residential lifestyles are readily available. However, the proximity of Mason and other suburban/urban areas and services provide potential opportunities for more suburban and urban lifestyles in the Township. Establishing suburban and urban residential development areas can be important as part of the Township's efforts to provide varied housing opportunities for current and future residents and limit the extent of residential encroachment into agricultural areas. Public studies during the past 10 years have consistently documented that multiple family development, unlike low-density residential development, typically generates more municipal revenue than the cost to provide it with services.

The proper placement of residential development of a more urban character, including multiple family dwellings, is critical if such development is to have limited impact upon the character of existing residential areas, the community's dominant rural character, and the cost-effective delivery of public services. This consideration is paramount in light of the comparatively limited support for high-density residential development in the community.

A primary concern with regard to future housing is that it be situated in appropriate locations. Inappropriately located residential development can have the greatest negative impact on local farming operations. Residential encroachment into farmland areas is frequently associated with increased conflicts between farm and non-farm residents, increased land assessments and property taxes, and increased farm acreage losses. These encourage the disinvestment in farming. However, farmland concerns should not be the sole consideration in the location of new resi-

dential development. Inappropriately located development can occur where development densities exceed the natural carrying capacity of the land, where public facilities are not adequate to handle increased demands, and where nearby development may reflect a very different character.

Of equal concern is the efficiency in which the Township's land resources are utilized. Future residential development can be efficiently accommodated and need not consume unnecessary farmland acreage, other natural resources, and open spaces. The actual land area needed for future residential development is comparatively small. If Alaiedon Township's population grows by 1,000 persons by 2020, approximately 600 acres of undeveloped land and/or farmland would require conversion to residential use to accommodate the additional 333 dwellings (based on an average lot size of 1.5 acres and a household size of 3.0 persons). As noted previously, the development of a single 80-acre parcel alone could potentially yield 40 new dwellings and 120 new residents – accommodating more than ten percent of this anticipated growth.

However, the same 333 dwellings can consume as much as 2,500 acres (approximately 11% of the Township) or more if located on large lots of five to ten acres or more in size. This less efficient development pattern can dramatically accelerate the rate at which farmland and other undeveloped lands are converted to residential use and undermine the long term economic viability of local farming operations. When large land splits occur throughout the community, one by one, the cumulative impact upon the Township's agricultural base can be devastating. It must also be recognized that small acreage zoning across the Township without any density limitations, such as one acre zoning, provides for a build-out population (the population resulting from all land being developed at a density of 1 dwelling per acre, exclusive of wetlands and future road rights-of way) approaching 35,000 persons or more. Such a growth pattern will have dramatic effects on farming, community character, taxes, and public services demands.

***GOAL:*** Accommodate new residential development in a manner which recognizes the opportunities and constraints of the Township's public services, infrastructure, and natural features; preserves the overall rural character of the Township and its farmland resources, and accommodates a range of densities and lifestyles.

### Objectives:

- 1) Encourage the continued dominance of low density housing as the principal housing option.
- 2) While maintaining low density housing as the primary housing option, provide opportunities for alternative housing options to meet the varying housing preferences of current and future residents, including small lot single family dwellings and multiple family housing.
- 3) Consider the natural carrying capacity of the land when determining the appropriate density of development. Development densities should not undermine important environmental features.
- 4) Limit development densities in environmentally sensitive areas.
- 5) Identify limited areas in the Township where higher density residential development, including multiple family development, can be adequately accommodated. Priority should be given to locations that have greater access to improved thoroughfares and necessary public services, and within walking distance of business districts.
- 6) Discourage strip residential development along the frontage of existing state and county roads, to minimize traffic safety hazards and the "landlocking" of interior acreage.
- 7) Encourage innovative residential development which incorporates the preservation of natural resource systems and open spaces, and the preservation of the Township's rural character, in the site planning process. One such initiative, where multiple lots or dwelling units are created, should include the development of only a portion of the original parcel and placing the balance of the parcel in a permanent open space status.
- 8) Discourage commercial encroachment into established residential neighborhoods.

### Commercial Development

Commercial development in Alaiedon Township covers approximately 450 acres and consists of a mix of office, retail and service-based uses. The principal commercial area is based along Jolly and Okemos Roads in the general vicinity of the I-96/Okemos Road interchange. In addition, there are several businesses along Cedar Street, a construction equipment sales and rental facility at the I-96/Holt Road interchange, and several other small commercial uses scattered throughout the Township.

Addressing future commercial development effectively requires consideration of need, location and character. Determining "need" can be examined on multiple levels. There are no universal land use ratio standards that identify the appropriate amount of commercial development for a particular community. Each community is unique, with its own set of circumstances including infrastructure, existing land use pattern, growth, and public perceptions.

Studies have been undertaken to identify guidelines that may address appropriate land use ratios, although they do not specifically address rural communities such as Alaiedon Township. Still, their findings provide insight. Studies in the 1980s by the American Planning Association, focusing on both large and small cities, found that an average of approximately 8% of a community's developed land area was devoted to commercial use. Direct comparison of this figure to Alaiedon Township is not realistic as the Township is far from an urbanized community. Still, it must be noted that Alaiedon Township's current 450 acres of commercial development comprises approximately 19% of its total developed land area. A 1989 study by David Van Horn, focusing on four counties in Florida, California, and Tennessee (including rural areas), found that the average number of acres devoted to commercial use on a county-wide basis was 7.2 acres per 1,000 population (Urban Land, 1989). It is reasonable to expect that a significant lower ratio exists if all cities and villages are excluded. Alaiedon Township's current 450 acres yields a ratio of 7.8 acres of commercial development per 1,000 population.

According to the 1985 Shopping Center Development Handbook, published by the Urban Land Institute, the Township's population of approximately 3,500 is considered generally adequate to support the smallest of the classifications of commercial centers – the *neighborhood* center. The neighborhood center is considered to require a base population of 3,000 – 4,000 persons and approximately 5 – 10 acres in size.

These studies suggest that, based on land use and population ratios, the level of commercial development in Alaiedon Township is adequate today and will continue to be adequate with an increase of approximately 1,000 persons by 2020. Public sentiment also suggests that commercial expansion should not be a goal of the Township at this time. However, if the Township desires to more aggressively pursue the long-term economic stability of the community, some commercial expansion may be advantageous.

It must be recognized that the vast majority of commercial development in the Township is office-based. Alaiedon Township residents also have available to them the retail services of Mason to the south, Meridian Township to the north, and the greater Lansing area. The commercial development in these communities caters to both the day-to-day needs of area residents as well as providing opportunities for comparison shopping and professional services.

The 425 Agreement associated with the Jackson National Life development provides for the potential development of an additional 150 acres (approximately) for office purposes along the south side of I-96, east of Okemos Road.

The viability of future commercial development within a community is directly linked, in part, to access, visibility, activity areas, and improved levels of public services such as road, sewer and water infrastructure. Locating future commercial development with recognition of these factors will improve its long term viability, minimize additional public costs, have less negative impacts upon the local agriculture industry and residential areas, and avoid inefficient development patterns. To this end, and to the extent additional commercial development is accommodated in the community, special attention should be directed toward the I-96/Okemos Road interchange and the Cedar Street areas.

Commercial uses can vary significantly in character, ranging from retail to office, professional and other services, and ranging in size and scale from a small local hardware store to a large department store or multi-plex movie theater. As commercial uses are of varying character, so are their impacts upon abutting land uses, the community as a whole, and neighboring municipalities.

**GOAL:** *Provide opportunities for the limited expansion of commercial development in a manner that supports the predominant rural character of the community, minimizes new public service costs, and protects the viability and desirability of the Township's residential areas.*

### Objectives

- 1) Recognize the significance of key thoroughfares such as Okemos, Jolly and Cedar, and the I-96 interchange, as potential opportunities for the location of new commercial development.
- 2) Ensure new commercial development is in character and scale with surrounding land uses, considering such features as building size and

height, architectural design, setbacks, signage, and open spaces.

- 3) Future commercial development should be clustered in appropriately identified locations rather than be permitted to indiscriminately encroach into residential and agricultural areas.
- 4) Encourage consolidated commercial centers rather than strip commercial development patterns.
- 5) Provide opportunities for a mix of commercial uses that predominantly target local day-to-day consumer needs.
- 6) Establish landscaping and screening measures to insure commercial development is sensitive to the dominant rural character of the community and minimizes adverse impacts on the normal use and enjoyment of adjoining land.
- 7) The intensity of commercial development should be coordinated with available public facilities and services.
- 8) Focus new commercial development toward existing commercial areas.
- 9) Enhance the character of commercial development through complementary open spaces, landscaping and buffering, signage, architectural design and related site features.
- 10) Provide opportunities for home-based occupations within residential dwelling units under conditions which will support the residential character, appearance, and quality of life experienced by surrounding residential properties and neighborhoods.

### Industrial Development

Industrial development is generally limited to the Dart Container Company, located on Cedar Street and adjacent to U.S. 127, areas along Jolly Road between Hulett and Hagadorn Roads, including the Phillips Drive industrial area. Industrial development in Alaiedon Township cover approximately 80 acres.

Like future commercial development, effectively addressing future industrial development requires consideration of need, location and character. While APA-published studies (1983) found that an approximate average of 8% – 12% of the land in both large and small cities was devoted to industrial use, more rural communities, particularly those without extensive public sewer and water, have more often exhibited land use ratios of less than 2%. Alaiedon Township's current 80 acres of industrial development comprises approximately 3.5% of its total developed

land area. According to Planning Design Criteria (DeChiara and Koppleman, 1969), a general guideline for the ratio of industrial acreage to a community's population is 12 acres of industrial land for each 1,000 population. Alaiedon Township's current 80 acres yields a ratio of 22.9 acres of industrial development per 1,000 population. The approximately 1,000 additional persons that may be expected in the Township in 2020 will yield a ratio of 17.8 acres of industrial development per 1,000 population. These guidelines do not suggest the need for industrial expansion through 2020. Public sentiment also suggests that industrial expansion should not be a goal of the Township at this time. Still, expansion can improve the community's overall economic stability.

While visibility is not an important factor in locating future industrial development, adequate infrastructure is a critical consideration. As the intensity of industrial development increases, so typically does its reliance on public infrastructure including water, sewer, and roads. Locating future industrial development in recognition of these factors will minimize additional public costs. Industrial development can vary from low to high-intensity, and its impacts upon adjoining and near-by land uses can similarly vary. As its intensity increases, greater distance from residential areas is favored. Existing conditions in the Township, including land use patterns, public services and infrastructure, and public sentiment, suggest any future industrial development be of a comparatively light character.

**GOAL:** *Provide opportunities for the limited expansion of industrial development in a manner that supports the predominant rural character of the community, minimizes new public service costs, and protects the viability and desirability of residential areas.*

### **Objectives**

- 1) Recognize the significance of key thoroughfares such as Okemos, Jolly and Cedar, and the I-96 interchange, as potential opportunities for the location of new industrial development.
- 2) Be certain new industrial development is in character and scale with surrounding land uses, considering such features and building size and height, architectural design, setbacks, signage, and open spaces.
- 3) Future industrial development should be clustered in appropriately identified locations rather than be permitted to indiscriminately encroach into residential and agricultural areas.

- 4) Limit industrial uses to those which are predominately characterized by assembly activities and similar "light" operations that do not require added levels of public services or negatively impact surrounding land uses or the community as a whole.
- 5) Encourage industrial uses to locate within industrial parks, characterized by adequate open spaces, landscaping, and buffering.

### **Circulation**

As new residential and non-residential land uses are introduced into the Township, demands upon the roadway network will increase. Even low density residential development can significantly increase local traffic levels. This increased traffic may lessen the level of service along some of the Township's roads. Conversely, it must be recognized that road improvements may attract new development which, in turn, will place additional demands on the roadway network. Increased traffic demands can be minimized through adequate road maintenance and the coordination of road improvements with the planned future land use pattern and designated growth and development areas.

Opportunities are presented by the Township's improved thoroughfares and appropriate land use management can maximize their potential and minimize adverse impacts to other road segments. The extent to which higher density and intensity land uses, including commercial and industrial land uses, are in comparatively close proximity to these key thoroughfares will minimize future maintenance costs and traffic levels along the Township's other roads.

The future pattern of residential lot splits and subdivisions will have a significant impact upon the future quality of life within the Township. Much of the residential development in the Township today is of a strip pattern -- residences are "stripped" along the existing county road frontages. This pattern of lot splits can be debilitating because: 1) the increased number of driveways directly accessing the county roads increases the level of congestion and safety hazards along these corridors; 2) travel times are increased; and 3) the Township's rich rural panoramic views of woodlands, fields, and other open spaces, as experienced from the roads, may be reduced to images of driveways, cars, and garages.

Three of the busiest thoroughfares are Jolly Road, Okemos Road, and Cedar Street. These roads are used extensively by local residents, visitors, and commuters. They are particularly vulnerable to continued strip development by both residential and

commercial uses. Improperly managed, these thoroughfares have the potential to evolve into corridors of strip malls and homes, signage, and expansive parking areas and parking lighting. This development pattern will undermine the function of these corridors, encourage congestion and traffic hazards, and alter the essential perception of the dominant rural character of the community.

Providing bicycle and pedestrian access within and between communities has long been identified as an important goal in improving quality of life. The past 20 years have witnessed an unprecedented surge in interest in trail systems on the local, state, and federal level as their value gains greater understanding. These trails can limit the reliance on the automobile, improve the health of local residents, and improve the quality of leisure time.

***GOAL:*** *Maintain a transportation network throughout the Township that encourages efficient and safe travel, consistent with the rural character of the community and coordinated with the planned future land use pattern.*

#### **Objectives**

- 1) Identify priority road segments for systematic maintenance and improvement, based upon the planned future land use pattern and existing and projected traffic patterns.
- 2) Discourage high-traffic generating land uses and development patterns along the Township's secondary roads until the time when such roads have been improved to accommodate such development.
- 3) Pursue measures to minimize the potential for traffic congestion and safety hazards along adjacent roadways, including limitations on the number, size, and shape of new land divisions, the discouragement of "strip" development, and limitations on curb cuts.
- 4) Encourage future residential lot split patterns that maintain the integrity of the Township's roadway network and rural character.
- 5) Discourage road improvements that will increase growth and development pressures in areas of the Township not specified for such growth should be strongly discouraged.
- 6) Work in conjunction with the Ingham County Road Commission to encourage the use of combined service drives to serve adjacent properties.
- 7) Encourage the inclusion of pedestrian/bicycle paths in association with new subdivisions to fa-

cilitate safe and convenient non-motorized movement.

- 8) Encourage the linking of residential and commercial centers through pedestrian/bike paths.

### **Regional Coordination**

Alaiedon Township must recognize that it exists within a regional network of communities, none of which are islands unto themselves. Alaiedon Township abuts the Townships of Meridian, Wheatfield, Vevay, and Delhi, and the City of Mason. The Township and nearby municipalities can greatly benefit by cooperatively pursuing common goals in the areas of land use and public services. In terms of township preservation goals, strategies administered and coordinated on a county or regional basis may provide more viable and effective opportunities for both landowners and the Township as a whole.

Planned land uses, public services and preservation efforts should take into consideration conditions in these abutting communities. These conditions vary, from the more urbanized features of the City of Mason and Delhi and Meridian Townships, to the more agricultural and rural features of Wheatfield and Alaiedon Townships. Appendix A provides a review (Neighboring Conditions) of existing conditions in these abutting communities.

Land use planning efforts should seek to establish a land use pattern compatible with surrounding conditions provided the goals of the Township are not undermined. To this end, the Township must recognize the potential for annexation efforts and give careful consideration to the location of new commercial and industrial development and targeted farmland protection areas and the protection of its tax base.

***GOAL:*** *Guide future development and public services in a manner that recognizes the position of Alaiedon Township within the larger region, and the mutual impacts of Alaiedon Township's planning.*

#### **Objectives**

- 1) Where practical, identify a planned future land use pattern, which seeks to ensure compatibility among land uses along municipal borders.
- 2) Where practical, identify a planned future land use pattern that does not risk the loss of important agricultural, commercial and industrial property tax dollars through annexation.
- 3) Work with officials of Mason to coordinate land use planning efforts to accomplish preservation

and development objectives **and** minimize the potential for undesirable annexation and land conflicts.

- 4) Maintain a meaningful communication program with area municipalities and county agencies to discuss local and area-wide public facilities and services needs, land use conditions and trends, preservation goals and objectives, contemporary planning issues, and other mutually beneficial strategies to address short and long-term needs.



## Chapter Three

# FUTURE LAND USE STRATEGY

### Introduction

Alaiedon Township's principal planning components are contained in the Master Plan's Future Land Use Strategy, as discussed in this chapter, and the Coordinated Public Services discussion in Chapter Four. The Future Land Use Strategy identifies the desired pattern of land use and development throughout the Township. Chapter Four presents guidelines regarding future infrastructure and public services improvements to help insure that future public services are coordinated with the planned future land use pattern, and the achievement of the Plan's goals and objectives.

The Future Land Use Strategy consists of policies regarding future land use and development in the Township. Implementation of these policies rests with the regulatory tools of the Township – most importantly the Alaiedon Township Zoning Ordinance. The Alaiedon Township Zoning Ordinance will be the primary implementation tool of this Master Plan, by appropriate changes in the provisions of the Ordinance. The Zoning Ordinance generally regulates the type, location, bulk, and intensity of land development throughout the Township. The Township may also adopt other supporting regulatory tools to further the implementation of the policies of this Plan.

The goals and objectives presented in Chapter Two are the foundation on which the Future Land Use Strategy is based. These include, in part, the desire to guide future development in a manner that insures land use patterns compatible with public facilities and services, the cost-effective use of tax dollars, and the preservation of natural resources, existing land use patterns, and rural character.

The Future Land Use Strategy is based upon an analysis of the Township's natural and cultural fea-

tures such as community attitudes, existing roadway network, soil conditions, existing and nearby public infrastructure, and environmentally sensitive areas. The opportunities and constraints presented by these characteristics were evaluated in the context of the goals and objectives in Chapter Two to arrive at a planned future land use pattern.

### Land Use Areas

The Future land Use Strategy divides the Township into "areas" and identifies the predominant land use pattern planned for each. These land use areas collectively formulate the planned future land use pattern in the Township. These areas are divided as follows:

- Agricultural Areas
  - Primary Agricultural Area
  - Secondary Agricultural/Rural Residential Area
- Suburban Residential Areas
- Commercial and Industrial Areas

It is not the intent of this Plan to identify the specific land uses that should be permitted in each of these Areas. This Plan makes broad-based recommendations regarding the dominant land use(s) to be accommodated in each of these Areas. Specific permitted land uses will be determined by the zoning provisions of the Township, based upon considerations of compatibility. There may be certain existing land uses that do not "fit" with the planned future land use pattern. This should not be necessarily interpreted as a lack of Township support for the continuation of such uses. Zoning regulations should clarify this matter. The approximate borders of these Areas are illustrated in the Future Land Use Map at the end of this Chapter.

## Agricultural Areas

The Agricultural Area includes the vast majority of land in the Township and nearly all lands currently farmed. The intent of the Agricultural Area is to encourage the preservation of farmland resources and the long-term viability of local farming, while also providing opportunities for low-density residential development that preserves the community's overall rural character, natural resources, and open spaces.

The Agricultural Area recognizes that farming plays an important role in the history and character of Alaiedon Township, contributes food and fiber to local and regional populations, encourages Township-wide economic stability, and is an important source of personal income. The Agricultural Area encourages the continuation of all current farming activities as well as the introduction of new farming activities. All farming activities are encouraged provided that they meet Department of Agriculture requirements as "*generally accepted agricultural management practices.*"

Agriculture and low-density residential development are intended to be the primary uses of land in this Area. The Plan discourages the wide-spread encroachment of residential development in order to more effectively preserve important agricultural resources and the long-term farming environment.

Maximum development densities of approximately one dwelling per two acres is recommended in the Agricultural Area, in support of the preservation of farmland resources and the management of growth and development. Development patterns that incorporate the preservation of natural resources, open spaces, rural character, and traffic safety are strongly encouraged. To this end, the Area supports opportunities for what is frequently referred to as "clustering" and/or "open space developments." This form of development provides for the clustering of smaller lots then what is normally required, on only a portion of the development parcel, so that the balance of the parcel can be retained for farming or otherwise reserved for open space and/or the preservation of important environmental resources. These open space areas can be reserved by the use of conservation easements, deed restrictions, or similar tools. However, where feasible, clustered developments should not position new lots and dwellings in close proximity to active farm operations.

A critical component of clustering should be the inclusion of new interior roads to serve the new lots, rather than stripping the dwellings along existing road

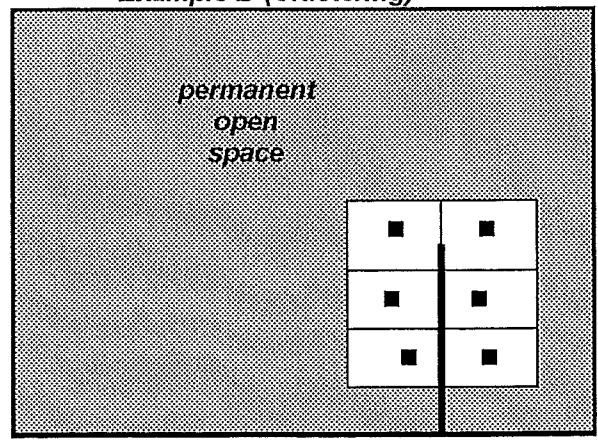
frontages such as Okemos Road, Hagadom Road, Holt Road, and the many other existing public roads.

More traditional strip residential development along the Township's major roads is illustrated in Example A. This is the easiest form of development but it impacts public safety due to the many driveways directly accessing the roads and can significantly undermine the rural character of the Township. Example B, illustrating the use of clustering, improves public safety along the road and more effectively preserves the existing character of the community.

**Example A (Strip Development)**



**Example B (Clustering)**



Potential new residents in the Agricultural Area should recognize that the traditional odors, noises, fertilizer applications, and generally recognized agricultural activities associated with responsible farming may well continue on a long term basis in this area. The Township does not consider such activities and operations as nuisances. Rather, the Township supports the long term continuation of farming in the Township. Local developers and real estate agents should disclose this information to prospective buyers of land in this Area.

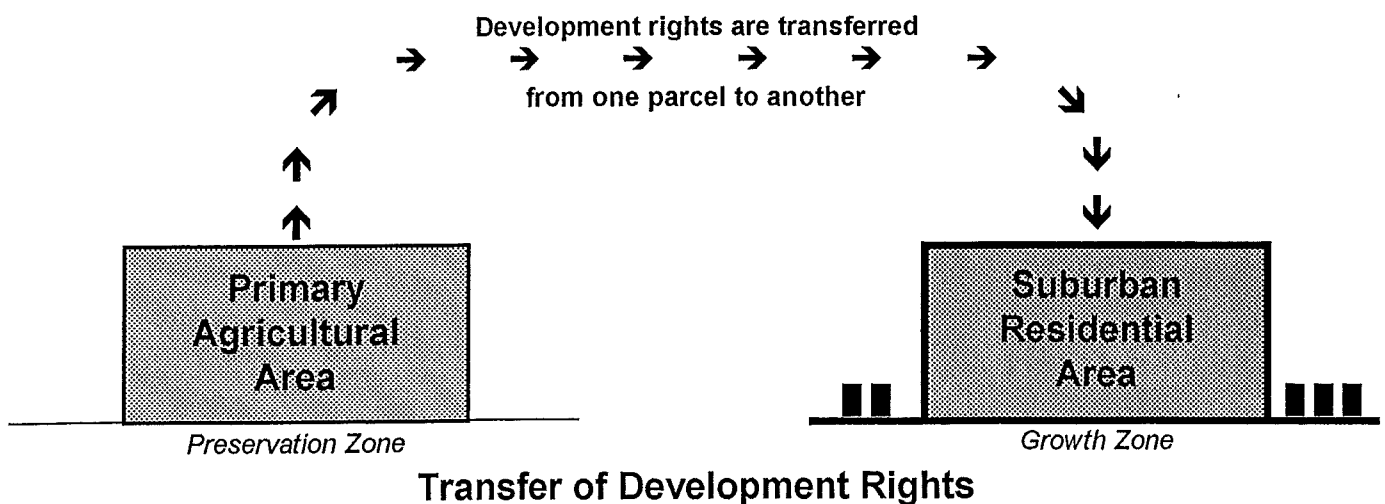
There are some existing small settlement areas in the Agricultural Area, including scattered subdivisions. The Plan recognizes the viability and desirability of these settlement areas, and that some may be of a higher density than recommended for this Area. On the other hand, these settlement areas are not to serve or be interpreted as future growth and expansion zones and for this reason, are not included in the Suburban Residential Area discussed on the following page. The Plan presents general policies. Specific zoning regulations, including zoning district boundaries and requirements, will address this issue.

Primary Agricultural Area and Secondary Agricultural/Rural Residential Area: The Future Land Use Strategy establishes two types of Agricultural Areas – the Primary Agricultural Area and the Secondary Agricultural/Rural Residential Area. Lands in both the Primary Agricultural Area and Secondary Agricultural/Rural Residential Area are largely characterized by one or more conditions that support their long term agricultural economic viability including: 1) classification by the U.S. Department of Agricultural as "prime farmland"; 2) minimum parcel sizes approaching 40 acres or more; 3) limited encroachment by non-agricultural land uses; 4) enrollment in the P.A. 116 Farmland and Open Space Protection Program; and 5) adjacency to other farmland parcels considered to offer similar opportunities for long term economically viable farming.

However, land included in the Primary Agricultural Area generally exhibits many, if not all of these conditions and this makes these lands uniquely qualified to be part of a more aggressive farmland preservation

initiative, such as that which may include the voluntary purchase of development rights (PDR) and the transfer of development rights (TDR) programs. PDR programs enable a landowner to voluntarily sell the development rights to a governmental body in return for the placing of an easement on the land prohibiting future non-farm development. TDR programs enable a landowner to voluntarily sell the farm parcel's development rights to another parcel owner in an area planned for growth and development. Both the sale and transfer of development rights provides landowners the opportunity to realize the development value of their land without having to actually develop it. Both result in the long-term preservation of farmland resources.

A PDR program in Alaiedon Township should focus on land in the Primary Agricultural Area and concentrate on preserving large contiguous blocks of farms and farmland. Similarly, a TDR program should focus on transferring development rights from the Primary Agricultural Area to the Suburban Residential Area (see "Suburban Residential Area" below), that area of the Township identified as a residential growth zone. This plan supports implementation of both PDR and TDR programs in Alaiedon Township as tools to help preserve the farmland and rural character of the community. The establishment of the Primary Agricultural area does not suggest exclusive use of PDR and TDR be limited to this Area. However, the plan supports the focus of such programs on the Primary Agricultural Area. The development of a TDR program is discussed in more detail below.



Transfer of Development Rights Program: This Plan proposes the establishment of a TDR program in Alaiedon Township. The goal of the program is the long-term preservation of farmland resources and the local agricultural industry. Key objectives of the program are to include:

- 1) Limit residential encroachment into important agricultural areas, identified as "preservation zones."
- 2) Enable farmers to realize a portion or all of the development value of their land by establishing a mechanism to transfer/sell their development rights to landowners of parcels in designated "development zones."
- 3) Allow the owners of land in the "development zones" the opportunity to develop such land with heightened densities to capture the investment of such rights.

Implementation of the program, through the Township's zoning regulations, is to be facilitated through "planned unit development" legislation of the Township Zoning Act (Section 16c of PA 184 of 1943, as amended). The TDR program will directly address purposes of the PUD legislation including, but not limited to:

- 1) permit flexibility in the regulation of land development;
- 2) achieve economy and efficiency in the use of land and natural resources and the provision of public services; and
- 3) encourage useful open space.

The mechanics of the program are to be generally based upon the following. Specific zoning and/or other regulations will clarify the procedures and requirements of the TDR program.

- 1) The TDR program will involve a "preservation zone" where farmland preservation is considered of highest priority, and a "development zone" where suburban and urban residential development densities are considered most appropriate due to, in part, improved levels of public services and infrastructure, and the presence of increased development levels. The preservation zone is to generally coincide with this Plan's Primary Agricultural Area and the "development zone" is to generally coincide with this Plan's Suburban Residential Area (see following page).

- 2) A landowner can voluntarily apply for acceptance of land into a designated "Agricultural Security Area" (or similarly named Area) within the Primary Agricultural Area. The Agricultural Security Area is to be a component of the TDR program and acceptance of a parcel(s) into the Agricultural Security Area is one of the initial steps of the TDR program.
- 3) Upon acceptance of a parcel(s) into an Agricultural Security Area, and thereby becoming eligible for the TDR program, the authorized development density of the Agricultural Security Area parcel would be reduced in recognition of:
  - a) the landowner's interest and commitment to long-term farmland preservation and the long-term use of the land as farmland; and
  - b) the difference between the development value and agricultural value of the parcel.
- 4) Through the TDR program, and under the management and authorization of the Township, the landowner of an Agricultural Security Area parcel could transfer the parcel's development rights to land in the Suburban Residential Area.
- 5) A parcel in the Suburban Residential Area that receives the transferred development rights from the Agricultural Security Area would then be authorized to be developed at a higher density than one dwelling per two acres. The extent to which the development parcel could be developed at a higher density would be based upon a number of factors including the number of development rights available for transfer, available infrastructure and public services, the surrounding land use pattern, and the specific characteristics of the development property. The landowner in the development zone that is to receive the transferred development rights is to have knowledge of the approximate density bonus to be authorized on the development parcel prior to finalizing such a transfer.
- 6) A conservation easement or similar legally binding tool will then be placed on the parcel in the Agricultural Security Area from where the development rights were transferred, limiting future use of the Agricultural Security Area parcel to agricultural or similar open space use.

## Suburban Residential Area

The Suburban Residential Area provides for residential development of a more suburban character than planned elsewhere in the Township. These Areas include existing residential development of a suburban character as well as vacant land where new residential development of similar character is considered appropriate. The Future Land Use Strategy identifies the following Suburban Residential Areas.

Mason Suburban Residential Area: The Mason Suburban Residential Area is intended to accommodate suburban development in the general vicinity of the City of Mason, in an approximately 1/2 – 3/4 mile radius of the Ingham Intermediate School District (IISD) facility. Much of this area already exhibits suburban development and is in close proximity to the urban character and services of the city. College Road is served by public water and a public sewer line runs along Howell Road in this area. The Cedar St. / US-127 interchange heightens access.

College Road Suburban Residential Area: The College Road Suburban Residential Area is intended to accommodate suburban development within the College Road / US-127 corridor. This area is already characterized by extensive residential development and the opportunity for additional development is somewhat restricted due to existing land division patterns, wetlands, and the Sycamore Creek bottomlands. College Road is served by public water, and much of the west side of the Road (Delhi Township) is similarly characterized by and planned for suburban development. US-127 serves as a natural buffer between this existing/future development and agricultural areas further east.

Sandhill Rd./I-96 Suburban Residential Area: The Sandhill Rd./I-96 Suburban Residential Area is intended to accommodate suburban development in the area generally bounded by Sandhill Road and I-96, between Okemos and Hagadorn Roads, and the area along Sandhill Road bounded by the Jolly/Okemos Roads Commercial Area to the north and west (see page 3-5) and extending approximately one-half mile east. The existing and planned commercial development along Okemos Road, including Jackson National Life and other future 425 Agreement development, generally precludes viable agricultural operations on a long term basis in this immediate area. A significant portion of the Sandhill Rd./I-96 Suburban Residential Area is already developed for residential purposes, occupied by Jackson National Life, or otherwise limited in development potential due to existing land division patterns and

the 425 Agreement. Public water service is present along portions of Sandhill and Hulett Roads. Sewer service is not currently available although future opportunities for public sewer may be available from the City of Lansing. The proximity of the Okemos Rd./I-96 interchange heightens access. The segment of Sandhill Road west of Okemos Road is classified as "primary," as are Hagadorn and Okemos Roads.

Jolly Road/I-96 Suburban Residential Area: The Jolly Road/I-96 Suburban Residential Area is intended to accommodate suburban residential development in that area generally bounded by Jolly Road and I-96, in the northeast quarter of the Township. This area is of a mixed agricultural/residential character, including suburban development along Jolly Road to the north in Meridian Township.

This area of Meridian Township is similarly planned for suburban development. Public sewer or water is not available in this area at this time although there may be opportunities for expansion of the existing sewer/water services from Meridian Township serving the Jolly/Okemos Roads business area.

Development densities of approximately one dwelling unit per two acres are considered appropriate in the Suburban Residential Areas provided adequate potable water and on-site sewage disposal exists. The presence of extensive wetlands or other sensitive environmental resources may suggest lower development densities in selected areas. Densities in excess of approximately one dwelling per two acres are considered reasonable only where public sewer is provided and development under a TDR program is exercised, as described under "Transfer of Development Rights Program" on page 3-4. Development densities approaching three or more dwellings per acre may be reasonable in the Suburban Residential Areas following the transfer of development rights but only after special review proceedings to determine if the project is appropriate on the proposed property. Factors such as available infrastructure and public services, the surrounding land use pattern, and the specific characteristics of the property should be considered. However, in light of the improved access to regional highways, fire protection services, and the heightened urban character and services associated with the City of Mason, the development of manufactured housing communities and similar high-density developments should be restricted to the Mason Suburban Residential Area.

The Suburban Residential Area can provide opportunities for the effective preservation of farmland resources through the transfer of development rights from parcels in the Agricultural – Rural Residential Area to parcels in the Suburban Residential Area.

### **Commercial / Industrial Areas**

The Future Land Use Strategy identifies particular locations where commercial, industrial, or a combination of commercial and industrial development is considered appropriate. Commercial and industrial centers typically require a heightened level of road infrastructure, access, public services and, in the case of commercial development, visibility. These factors directly impact the identification of future commercial/industrial areas in the Township along with other concerns including minimizing conflicts between existing and proposed land uses and encouraging compact development. However, no development should occur unless public sewer and water are available, or adequate measures are provided for on-site sewage disposal and potable water. Following is a review of locations considered appropriate for the accommodation of future commercial and/or industrial development.

Jolly/Okemos Roads Commercial Area: The Jolly/Okemos Roads Commercial Area is to serve as the principal commercial center of the Township. The Area generally extends from Hagadorn Road to the University Park Commons, between Jolly Road and I-96, and extends south along Okemos Road to include the land contained in the Jackson National Life 425 Agreement. In addition to the land south of I-96 in the 425 Agreement, this Area also includes land along the east side of Okemos Road and north of Sandhill Road. The planned commercial development along the west side of Okemos Road, including the 425 Agreement properties, largely precludes residential and agricultural uses along the east side of Okemos Road. Commercial development along the east side of Okemos Road should not extend more than approximately 1,000 feet east.

The Jolly/Okemos Roads Commercial Area is characterized by extensive commercial development as is the north side of Jolly Road (Meridian Township). The area is served by public sewer and water and the I-96/Okemos Road interchange. Both Jolly Road and Okemos Roads are classified as "primary" roads. Excluding the undeveloped portions of the 425 Agreement Area and certain lands along the east side of Okemos Road south of I-96, the Jolly/Okemos Roads Commercial Area is largely developed and additional development will be of an infill character.

Key principles clarifying the intended purpose and character of this Area are:

- 1) The Jolly Road area is intended to function in the same general manner in which it has evolved, primarily addressing commercial service, office and retail needs at an architectural scale sensitive to the desired character of the community. Large retail or service facilities, such as multi-acre merchandise stores, malls and multi-screen theaters, are strongly discouraged. The Plan recognizes that there are some industrial pockets along this corridor and the Plan generally supports the continued use of such parcels for industrial purposes where the public health, safety and welfare is or will not be jeopardized. However, any significant expansion of industrial development along this corridor should be generally limited to the land area immediately north of I-96 between Hulett and Hagadorn Roads. This area includes vacant land in proximity to other industrial uses and is situated in an existing mixed-use location including commercial, residential, industrial, and public uses. Commercial development may be equally appropriate in this location.
- 2) Commercial development south of the I-96 interchange should be generally limited to the Jackson National Life 425 Agreement Area and land along the east frontage of Okemos Road. The Agreement covers approximately 203 acres along the south side of I-96, extending from the southwest corner of the interchange to one-quarter mile west of Dobie Road. Okemos Road splits the Agreement area approximately in half. This land is available for both general retail and office use, and provides ample acreage for future commercial expansion in the Township.

In the interest of unified and compatible development patterns, the several comparatively small parcels along the west side of Okemos Road that are largely surrounded by the Agreement Area are also considered appropriate for the accommodation of commercial development provided it is of a scale that reflects the desired character of the community. All commercial development on land not included in the 425 Agreement Area but south of I-96 should be based upon the development limitations established as part of the 425 Agreement. In addition, all development along Okemos Road should be characterized by appropriate landscaping and screening, and strong access management measures to minimize unnecessary curb cuts, congestion, and traffic hazards.

Cedar Street Commercial/Industrial Area: The Cedar Street Commercial/Industrial Area is intended to accommodate limited commercial and light industrial uses. The corridor is currently characterized by several small businesses near College Road, Fun Tyme, Dart Container, and the Angells Subdivision. Spartan Speedway in Delhi Township is located at the southwest corner of College Road and Cedar Street. This Area extends the Cedar Street business corridor from Mason. The presence of the Cedar St. / US-127 interchange heightens access. Public sewer and water is not available along Cedar Street at this time (excluding Dart Container) although such service may become available at a future date from the City of Mason. The current land use and land division pattern does not support substantial development of either commercial or industrial uses at this time.

Holt Road/U.S.-127 Commercial Area: The Holt Road/U.S.-127 Commercial Area is intended to recognize the existing and historical use of the east side of the interchange for limited commercial use, and support the continued commercial use of the parcels in immediate proximity to the interchange. This Area does not support the expansion of commercial use beyond those parcels currently used or zoned for commercial use. This Plan identifies other locations considered more appropriate for commercial expansion.

Howell Road Commercial/Industrial Area: The Howell Road Commercial/Industrial Area is intended to accommodate limited commercial and industrial development. This Area is restricted to the north side of Howell Road between Dart Road and the IISD facility, immediately north of Mason. This area is currently under agricultural use except for the Dart Container administrative offices and residential development along Dart Road. Land directly south in the City of Mason consists of the Kim Drive and Kearns Road industrial/commercial area. Kearns Road intersects with the Cedar Street commercial area in Mason. The Cedar St./US-127 interchange heightens access. Public sewer is available along this segment of Howell Road. Both industrial and commercial uses should be of a comparatively low-intensive character.

All commercial and industrial development should be of a character and design that encourages compatibility with adjacent and nearby land uses and the desired rural character of the area. New commercial and industrial uses that are adjacent to residential property should be permitted only when adequate buffer yards and screening are provided to minimize negative impacts. Limitations on signage, building heights, size, bulk, and related architectural qualities

should be established to insure compatibility of new land uses with the desired character of the surrounding areas and the Township as a whole. Special attention should also be directed to insuring future commercial development does not undermine public health, safety or welfare due to poor road access practices including excessive curb cuts and conflicting turning patterns.

## **Conservation of Natural Resources**

Alaiedon Township is characterized by conditions that require a strong conservation theme. These lands include abundant wetlands and woodlands, and important streams and steam ecosystems including those of Sycamore Creek. In addition to presenting severe limitations to development, these resources provide important environmental benefits including habitats for wildlife, flood control, groundwater recharge and discharge, and surface water purification. In addition, they provide special opportunities for passive recreation and contribute to the Township's overall rural character.

In light of the critical roles these resources play and the limitations they present to development, the Plan strongly supports the preservation of these resources. The preservation of these resources should take precedence over the unnecessary disturbance and/or destruction of these resources in the face of residential, commercial, or industrial development. The presence of such resources in areas designated for residential, commercial or industrial development should be recognized in the deliberation of rezoning, site plan, and similar zoning requests. Land uses requiring state and/or federal permits (especially for wetland or floodplain alterations) should not receive final Township approval until satisfactory evidence has been submitted verifying the acquisition of all necessary permits. Where a portion of a parcel is characterized by environmentally sensitive areas, development should be directed elsewhere on the site.



## Phased Zoning

This Plan recommends the rezoning of vacant land to a more intensive zoning district in a phased or incremental manner only. For example, while the Plan may identify areas that may be appropriate to accommodate suburban residential development, the Plan does not recommend "across the board" or immediate rezonings of such vacant land. The Plan recommends that rezonings to more intensive districts occur incrementally over time to insure the Township is capable of meeting the increased public service demands, managing Township-wide growth and development, adequately reviewing rezoning requests as they apply to the specific subject property, insuring rezonings are in response to a demonstrated need, and minimizing unnecessary hardships upon the landowner of the property as a result of property assessments and/or resulting nonconforming uses and structures.

All rezonings should be evaluated very carefully in the context of this Plan and other factors that may have relevance. The following minimum considerations should be examined in association with all rezoning requests.

- 1) What, if any, identifiable conditions related to the request have changed which justify the proposed rezoning?
- 2) What are the precedents and the possible effects of such precedent which might result from the approval or denial of the rezoning?
- 3) What is the impact of the amendment on the ability of the Township and other governmental agencies to provide adequate public services and facilities, and/or programs that might reasonably be required in the future if the proposed rezoning is adopted?
- 4) Would approval adversely affect environmental conditions?
- 5) Would approval adversely affect the value of the surrounding property?
- 6) Is the site's physical, geological, hydrological and other environmental features compatible with the host of uses permitted in the proposed district?
- 7) Is the subject property able to be put to a reasonable economic use in the zoning district in which it is presently located?
- 8) Does the rezoning request generally comply with the planning goals of the Township?
- 9) Is the proposed rezoning consistent with the zoning classification of surrounding land?
- 10) Can all requirements in the proposed zoning classification be complied with on the subject parcel?



# ALAIEDON TOWNSHIP MASTER PLAN

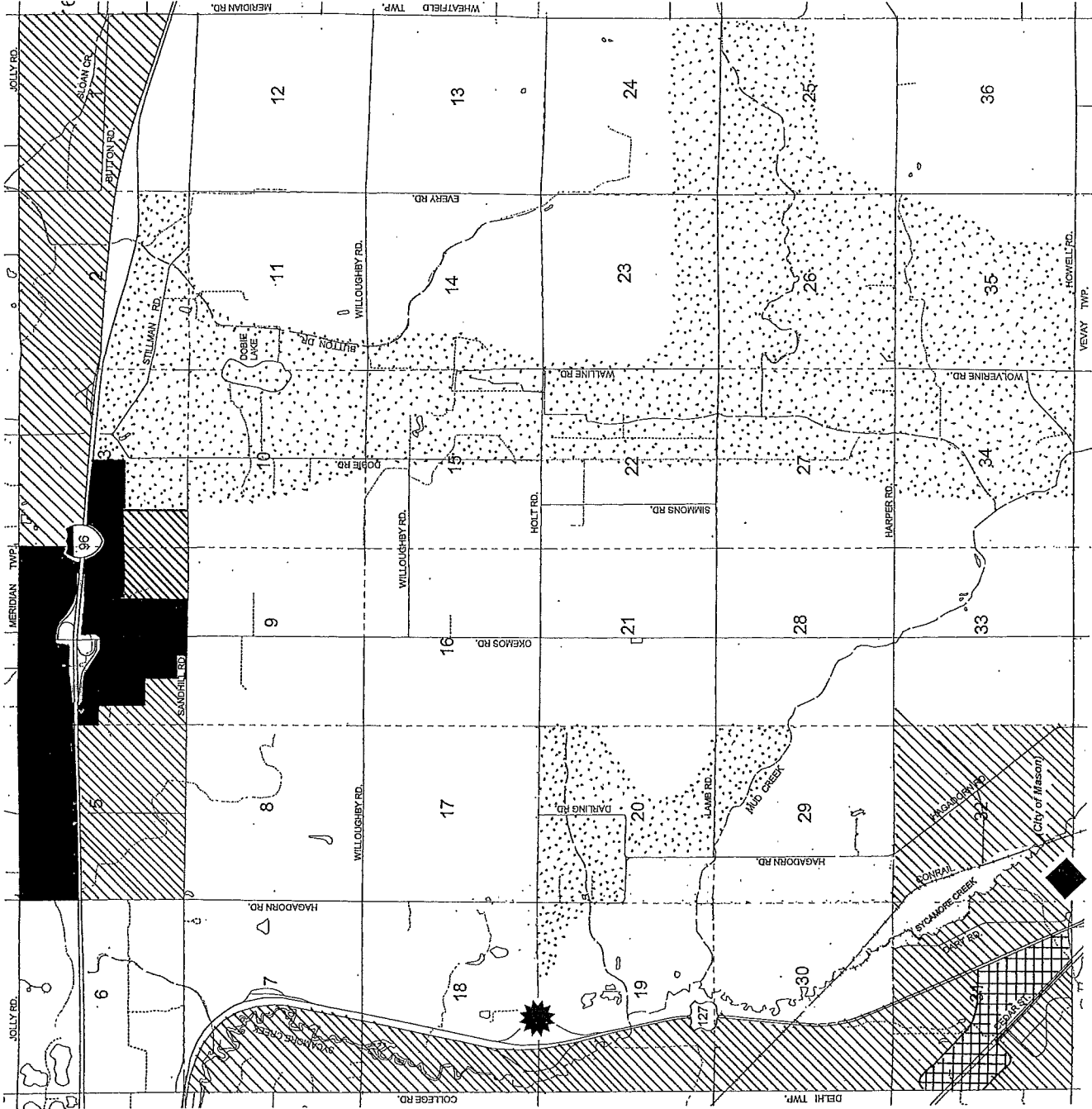
## FUTURE LAND USE



Approx. Scale in Feet: 3,300

### LEGEND

- Primary Agricultural Area
- Secondary Agricultural / Rural Residential Area
- Suburban Residential
- Jolly/Okemos Roads Commercial Area
- Cedar Street Commercial/Industrial Area
- Howell Road Commercial/Industrial Area
- Holt Road Interchange Commercial Area



December 17, 2002

## Chapter Four

# COORDINATED PUBLIC SERVICES

### Introduction

Chapter Three described the planned pattern of land use throughout the Township. Since the character and feasibility of land use and development is directly influenced by the extent to which public services are available, special attention should be directed to the manner in which public service improvements occur. An important principle of the Future Land Use Strategy is that no new development should occur in the Township unless public services are adequate to meet the needs of that new development. Similarly, public service improvements, and the increased development that may result from such improvements, should not jeopardize the Township's interest in managing growth and development. Thus, it is very important that future public service improvements be coordinated with the planned pattern of future land use.

### Roads

As new residential and non-residential land uses are introduced in the Township, demands upon the road network will increase. The additional residential development anticipated in this Plan, despite its overall low density, will result in higher traffic levels. This increased traffic may lessen the level of service along some of the Township's roads. Conversely, it must be recognized that road improvements may well attract new development which, in turn, will place additional demands on the road network.

Excepting emergency conditions, such as an impassable road, the functional classification of roads should dictate the priority of improvements when all other conditions are generally equal. Priority improvements should be assigned to county primary roads, particularly those segments serving the Future Land Use Strategy's Commercial and Industrial Areas, and the Suburban Residential Areas.

All proposed future road construction should be evaluated carefully for both site design measures and local and regional impact on traffic flow, congestion, and public safety. New road construction should be coordinated with other local and regional road improvements to address traffic movement in a unified and comprehensive manner. New roads proposed as part of land development projects should comply with minimum standards to insure public health, safety, and welfare.

### Public Sewer

Public sewer is limited primarily to north of I-96, and public water is limited to the same area in addition to College Road and portions of Sandhill and Hulett Roads. Most Township residents rely upon septic systems for sewage disposal. Improperly operating septic systems can contaminate potable groundwater resources, lakes and streams. This poses a public health threat. As land development densities increase, so does the need for public sewer and water. Industrial, commercial, and higher density residential land uses generally demand greater sewage disposal and potable water needs than can often be met by traditional on-site facilities. Failure to provide adequate sewer and water facilities to these land uses can lead to severe health and environmental prob-

lems. On the other hand, premature provision of these services can lead to accelerated and unmanaged growth and development. Many of the Township soils present severe limitations to on-site sewage disposal. This condition highlights the critical relationship between land use, development intensities, and on-site sewage disposal and potable water.

All on-site sewage disposal and potable water facilities should be constructed and maintained in accordance with the requirements and standards of the Ingham County Public Health Department and other applicable local, county, state or federal agencies. Any future decision by the Township to expand public sewer and/or water services should be based on an in-depth analysis of all available options, including services provided by cooperative agreements with neighboring municipalities. Such services should be closely coordinated with the Future Land Use Strategy and should occur in a phased and incremental manner so that an overly large geographic area should not be developed at a rate or intensity beyond the Township's ability to effectively manage growth and development. Introducing public sewer service into the Primary Agricultural Area or Secondary Agricultural/Rural Residential Area should be discouraged except in response to health risks, a coordinated farmland preservation program involving the transfer of development rights, or other unique conditions.

## **Storm Water Management**

As buildings, parking lots and other impermeable surfaces associated with new development cover more of the Township's land surface, the quantity of storm water runoff increases. The vegetated landscape that previously absorbed and slowed much of the water associated with storms is replaced by urban surfaces. Unless specific preventive measures are taken, this condition encourages flooding, soil erosion, sedimentation and pollution of area water resources. Though these conditions originate from site-specific circumstances, their impact can extend to adjacent properties and more regional areas including other communities in the same watershed.

Increased quantities of runoff as a result of property development should be detained on site, if necessary, to avoid placing excess demand on the capacity of the storm water system into which the runoff would otherwise be discharged. Proposed land uses should not be permitted if the level of service currently provided by existing storm water management infrastructure and/or existing drainage patterns will be decreased, unless necessary improvements to such infrastructure or natural drainage courses are first made. New and existing land uses should comply with all county, state, and federal regulations regarding storm water management and soil erosion.

Attention should also be directed to ensuring adequate drainage of farmlands. Storm water management need not be limited to an urban development issue only. While urban development can pose increased flooding potential in association with urban and agricultural areas, improper maintenance of county drains, and roadside ditches, and filling of wetlands, can also increase flood potential.

## **Police and Fire Protection Services**

As community growth and land development increases, so does the demand for emergency services. It is important that the Township insure that adequate fire and police protection services are available to existing and future residents and property.

Commonly referenced standards regarding fire protection suggest a maximum service radius from a fire station in agricultural and low density residential areas of 2 1/2 to 4 miles, and approximately 3/4 to 2 mile service radius in commercial, industrial, and high density residential areas. There are portions of the Township that are not within these recommended ranges, although mutual aid agreements with surrounding municipalities limits these deficiencies. Commonly accepted standards for police protection levels do not exist and is frequently measured as a function of public satisfaction.

To prevent emergency services deficiencies, the Township should continually monitor police and fire protection needs and service, and explore improving service levels. Considerations for improved services should include the expansion of joint services with neighboring municipalities, and the establishment of additional fire and police stations as service levels dictate.

## Recreation

Alaiedon Township recognizes that the well being of its residents is affected by the availability of recreation opportunities. The Township further recognizes that the type and availability of nearby recreation facilities are important. Demands for recreation opportunities increase with population growth. Available land for recreational purposes decreases as housing and other land uses consume more of what was open space and potential outdoor recreation land. Recreation lands must be purposefully set aside and appropriately located within the community.

Public recreation facilities in Alaiedon Township are limited to those located on the Township Hall property and those at the Alaiedon Elementary School. The Township Hall property, covering approximately four acres, includes a small softball field, children's playground equipment, and an open play area. Alaiedon Elementary School provides traditional elementary school play facilities. Township residents also have access to recreational facilities and services of other school facilities, such as Mason High School and those of nearby municipalities.

The extent to which residents are satisfied with the current recreation opportunities in and around the Township is not clearly understood at this time. A survey of resident attitudes specifically addressing recreation issues in the Township has not been undertaken. The Township should monitor recreation needs within the context of both published standards and local aspirations. If public sentiment indicates a demand, the Township should undertake the development of a specific action plan to insure appropriate recreation facilities are developed. The Michigan Department of Natural Resources provides grant opportunities for the purchase and improvement of park facilities. A five-year recreation plan that complies with the Department's requirements is required for eligibility to compete for grant dollars. The pursuit of open space communities can encourage the incorporation of recreation opportunities within residential neighborhoods and insure safe and convenient access for local residents.

# Appendix A

# CULTURAL FEATURES

## Geography & Early History

Alaiedon Township is located in central Ingham County in the south-central region of Michigan's Lower Peninsula. Principal surrounding townships are Meridian to the north, Wheatfield to the east, Vevay to the south, and Delhi to the west. The City of Mason, with a population of approximately 6,700, abuts the Township's southern border and extends northward to occupy approximately 170 acres in the congressional boundary of the Township. The outer fringes of the larger urban centers of Lansing and East Lansing, with a total population of approximately 170,000, are located within 1 1/2 miles of the Township's northwest corner. Aside from suburban Meridian Township to the north and the Cities of Lansing, East Lansing, and Mason, the landscape of the surrounding communities is dominated by agriculture and scattered residential development.

Approximate distances between Alaiedon Township and some other major regional urban centers are: 1) Detroit, 65 miles east; 2) Ann Arbor, 45 miles southeast; 3) Jackson, 25 miles south; and 4) Grand Rapids, 70 miles west.

The first white settler in Alaiedon Township was James Phillips, who settled on the western half of the southeast quarter of Section 30 in December of 1836. The following several years witnessed a handful of new families arriving. The majority settled in the southern half of the community. Settlement of Alaiedon Township, and Ingham County as a whole, was spurred by the abundant timber and resulting logging industry. As the land was cleared, farming followed. Aurelius and Ingham Townships were the first two townships established in Ingham County, on March 11, 1837. One year later, on March 15, 1838, Aurelius Township was subdivided to create the original Alaiedon Township. It covered the four-township area in

Ingham County's northwest corner. Several weeks later on April 5, 1938 Ingham County was officially organized and named for Samuel D. Ingham, Secretary of the Treasury in President Jackson's cabinet from 1829 to 1831. At the time it was organized, the County consisted of the Village of Mason, Alaiedon Township, and five other townships. The movement of the state capital from Detroit to Lansing in 1847 further spurred growth in the area. By 1850, Ingham County was home to eight flourmills and 24 saw mills. Five years later, on February 16, 1842, Alaiedon Township was subdivided to form the townships of Delhi, Lansing, and Meridian. Alaiedon Township's population in 1850 was 350.

## Access and Circulation

### Regional Access

Regional access to Alaiedon Township is excellent. Interstate 96 (I-96) travels east-west across the Township's northern periphery with an interchange at Okemos Road. US 127 travels north-south along the Township's western periphery, with the I-96/US 127 interchange one-half mile from the Township's northwest corner (See "Roads" Maps). In addition to these principal interchanges, there are interchanges along US 127 at Holt Road in Alaiedon Township, and immediately south of the Township at Cedar Street. Cedar Street cuts through the far southwest corner of the Township, linking Mason and Lansing. Lansing's Capital City Airport is located eight miles northwest of the Township. Conrail Railroad operates a freight line through the northeast quadrant of the Township.

## Local Roadway Network

Alaiedon Township's local roadway network generally exhibits a grid-like pattern, characteristic of the majority of townships in Michigan (See "Roads" Maps). All roads in the Township are under the jurisdiction of the Ingham County Road Commission except for I-96, US 127, and a number of roads under private ownership (recorded as private easements).

In compliance with the requirements of Michigan Act 51 of 1951, the Ingham County Road Commission (ICRC) classifies all roads under its jurisdiction as either "primary" or "local" roads. Primary roads are considered the most critical in providing regional circulation throughout the County. The classification of roads by the ICRC has important financial implications with regard to maintenance and improvements. Under Michigan law, townships have no responsibility for funding road improvements and maintenance. The ICRC is responsible for local road maintenance. On the other hand, while the ICRC must maintain and improve primary roads at their own expense, state law limits the participation of Road Commissions to no more than 50% of the cost for improvements to local roads. Requests by local townships for local road maintenance levels beyond those considered adequate by the ICRC frequently require local funding. In reality, there are very few counties in Michigan where local townships are not actively involved in funding road improvements. The ICRC has no major road improvements planned at this time in Alaiedon Township.

Roads in the Township which the ICRC classifies as "primary" include:

- Jolly Rd.
- Holt Rd.
- Howell Rd.
- College Rd.
- Hagadorn Rd.
- Okemos Rd.
- Meridian Rd.
- Cedar St.
- Sandhill Rd., between College and Okemos Rds.

All other roads in the Township under the jurisdiction of the ICRC are classified as "local." All roads in the Township under the ICRC's jurisdiction are paved.

Also of importance is the functional classification of township roads as established by the Federal Highway Administration (FHA). The FHA classifies road segments according to their function – the extent to which the road is intended to facilitate traffic move-

ment over long distances versus access to abutting property. The relative hierarchy of the classification and its applicability to Alaiedon Township follows.

*Interstates, Freeways and Principal Arterials* are thoroughfares intended to move large volumes of traffic over long distances. Facilitating circulation on a regional level, including between cities and states, is the primary role of these thoroughfares.

Interstates/Freeways: I-96

Principal Arterials: Jolly Rd., west of Okemos Rd.

*Minor Arterial/Major Collector* roads serve to both accommodate through traffic while also providing access to abutting properties and minor intersecting streets.

Minor Arterials: Cedar Street

Major Collectors: College Rd., Hagadorn Rd. Holt Rd., Howell Rd., Jolly Rd., east of Okemos Road, Meridian Rd., and Okemos Rd.

*Minor Collector* roads serve to collect traffic from local streets and to provide a means of access to local destinations and minor arterial/major collector roads.

Minor Collectors: There are no minor collectors in Alaiedon Township.

*Local Streets* serve primarily to provide access to adjacent properties and minor collectors.

Local Streets: The balance of the roads in the Township not otherwise identified above.

Federal aid for road projects is limited to roads classified as major collectors or higher. Roads classified as minor collectors have limited eligibility only. Roads classified as local streets are not eligible for federal funding.

The ICRC records 24-hour traffic counts throughout the County. A review of the counts recorded between 1999 and 2001 shows that, except for several key thoroughfares, daily traffic counts are generally less than 2,000. The roads, or road segments, experiencing the greatest levels of traffic are as follows:

- Okemos Road, north of the I-96 interchange (32,100 trips per day).
- Jolly Road, from College Road to the Okemos Road intersection area (11,000 – 17,000 trips per day).
- Cedar Street, between College Road and Howell Road (14,000 trips per day).
- Okemos Road, between Howell Road and the I-96 interchange (4,000 – 7,500 trips per day).

- Hagadorn Road, between Holt and Jolly Roads (3,000 – 5,500 trips per day).
- Holt Road, east of Okemos Road (4,000 trips per day).

Like any growing community, traffic levels are increasing in the Township. While some road segments have experienced comparatively level or moderate increases in traffic, others have witnessed significant increases. For example, the 4,200 trips recorded in 2000 along Hagadorn Road between Holt and Wiloughby Roads are a 68% increase over the trips recorded in 1993. The 32,100 trips recorded in 2000 just south of Okemos Road, the most heavily traveled road segment in the Township (excluding US 127 and I-96), are a 37% increase over the trips recorded in 1993. This increase is due, in part, to the increased retail and office development in the Jolly/Okemos Roads area during the past ten years.

There are a multitude of factors that impact the capacity of roads and their ability to assure efficient and safe travel. These factors include, but are not limited to, road alignment, frequency of driveways and other curb cuts, road side development, driveway turning patterns, and traffic controls (lights, signs, etc.). It is not uncommon for a two-lane rural road to be capable of accommodating between 9,000 – 15,000 trips per day without the need for additional lanes. A major factor contributing to the need for additional lanes is the extent to which road side development encourages left-turn vehicle movements.

## Land Use & Development

Most of the Alaiedon Township landscape is dominated by farming operations, woodlands, wetlands and other open spaces, and scattered residences (See "General Existing Land Use" Map). The principal exceptions include the northern perimeter of the Township along segments of Jolly and Okemos Roads, and the far southwest corner near the City of Mason. These locations are characterized by office and retail development and, in the southwest corner, heightened residential, commercial and industrial development. Approximately 10% of the Township area has been developed for residential, commercial, industrial, and/or related urban uses. A review of some of the more significant characteristics of land use and development in the Township follows.

## Agriculture

Farming operations occupy approximately 60% (14,000 acres) of the Township acreage. While farming is present throughout the Township, it is less prevalent west of US 127, along Jolly Road, and in the Township's southwest region. Nearly all of the farm acreage is used for crop production with only limited and small-scale livestock operations and orchards. Some of the more commonly harvested crops are corn, soybeans and hay.

In an effort to better protect Michigan's farming interests, Public Act 116 of 1974 was adopted by the state, and has since been amended. The Act establishes a program whereby farmers can enroll their properties to gain property tax relief, provided the farmland is maintained in agricultural/open space use. There were approximately 7,500 acres, or one-third of the Township's area, enrolled in the Farmland and Open Space Preservation Program in 2001.

Part of the agricultural operations and lands in Alaiedon Township are under the ownership and management of Michigan State University. Most significant is the approximately 640 acres of university property at the Township's northwest corner, comprising all of Section 6. The university also owns approximately 50 acres along the west side of U.S. 127, just north of Holt Road. In addition, the university manages several experimental research facilities throughout the Township.

## Residential Development and Land Division

Residential development comprises approximately 8% (1,900 acres) of the acreage in Alaiedon Township. If the abundant vacant acreage associated with dwellings on five and ten-acre lots (and larger lots) is taken into account, this percentage increases to approximately 15%. The 2000 Census recorded 1,154 dwelling units, 58 more than the 1,096 dwellings recorded in 1990. Of the 1,096 dwellings in 1990, 1,040 were single family dwellings (94.9%), 28 of which were mobile homes. Nearly all of the remaining 56 dwellings were two-family dwellings. The vast majority of the mobile homes (approximately 25) are located in the Township's single mobile home park near the intersection of Wolverine and Harper Roads.

The 2000 Census reported that 52.1% of the dwelling units were constructed between 1940 and 1979, and 23.4% were constructed prior to 1940 (see Table A-1). Thus 24.5% of the dwelling units in 2000 were constructed since 1980. The median construction year for housing units in 1990 was 1967, reflecting a younger housing stock than the County (1962) and State

(1960) as a whole. The 2000 median value of the owner-occupied housing stock in the Township was \$143,400. This value is significantly higher than that of the County (\$98,400) and State (\$115,600) as a whole.

**TABLE A-1  
Selected Housing Characteristics, 2000**

DWELLINGS	ALAIEDON TOWNSHIP	INGHAM COUNTY	STATE OF MICHIGAN
Year Built (%)			
Since 1980	24.5 %	21.7%	25.2%
1940 to 1979	52.1%	60.2%	57.8%
Before 1940	23.4%	18.0%	16.9%
Median Value	\$143,400	\$98,400	\$115,600
Median Rent	\$710	\$542	\$546

Source: 2000 U.S. Census

During the early half of the 1900's, primarily large parcels of 80 to 160 acres or more characterized the dominant land division pattern in Alaiedon Township. By 1970, smaller five and ten-acre parcels had become a common occurrence. While parcels of 80 acres or more continued to dominate, approximately 20% of the community's acreage was in parcels of approximately five to ten acres in size. The ten years between 1957 and 1967 also saw the development of most of the platted subdivisions that exist in the Township today. Since 1970, the splitting off of individual two to ten-acre parcels has continued although not quite at the same rate as experienced in the 1950's and 1960's (See "Land Division" Map). This encroaching land division trend is exemplified in Section 10, extending one-half mile east and west of Dobie Road, between Sandhill and Willoughby Roads. Containing approximately nine parcels of 40 acres or larger in 1957, Section 10 now consists of nearly 40 parcels and only three approach or exceed 40 acres.

This trend of parcel splitting along the Township's section-line roads accounts for the primary manner in which residential development has been accommodated in the Township to date. Commonly referred to as *strip development*, this pattern is evident throughout the Township, such as along College Road between Sandhill and Lamb Roads, Dobie Road between Sandhill and Willoughby Roads, and Lamb Road between Walline and Meridian Roads. This form of development has been the source of increas-

ing concern in the transportation and land use planning arena due to its negative impacts upon traffic safety, congestion, farmland preservation, and rural character preservation.

Most of this strip development has occurred incrementally – each land division independent of neighboring divisions. However, a portion of this strip development includes multiple land divisions established as a unified development project, pursuant to the platting requirements (platted subdivisions) of the Land Division Act (formerly Subdivision Control Act). Today, Alaiedon Township includes nine platted subdivisions, including Angells Acres, Alaiedon Heights, Brookside Hills, Canaan Park, Harper Heights, Lynford, and Sycamore Sites. Nearly all were established prior to 1970 and include 15 or fewer lots. The largest, Angells Acres on Cedar Street, includes approximately 75 lots and is the only subdivision that employs interior roads (compared to strip development).



The original residential settlement pattern – dwellings on farm parcels approaching 40 acres or more in size – is still very evident but accounts for a small portion of the total households.

### **Commercial / Industrial Development**

Commercial development in Alaiedon Township covers approximately 450 acres and is primarily limited to the Okemos/Jolly Roads areas. Jolly Road, the boundary between Alaiedon Township and Meridian Township, has evolved as a commercial corridor between Hagadorn Road and one-half mile east of Okemos Road. Most of the Jolly Road development in Alaiedon Township within one-half mile of Okemos Road is comprised of office park developments such as Woodlands Court, Woodlands Square, and University Park Commons. Development consists primarily of single-story, multi-tenant office buildings devoted to a wide variety of offices including professional association offices; offices associated with accountants, attorneys, insurance carriers, mortgage and banking, real estate, telecommunications, computer services, printing, and other personal service providers; and health care providers. Office development extends south to I-96 and also includes hotel facilities. More traditional strip commercial development has expanded incrementally west of the Woodlands office park to Hagadorn Road. This strip development includes both single and multi-tenant buildings ranging in scope from agricultural associations and research facilities, antique and carpet sales, and telecommunications to computer services, home design and improvements, and printing and media services. John Phillips Drive, which intersects Jolly Road west of Woodlands Commons, provides access to such uses as a mini-storage facility, indoor/outdoor entertainment park (arcade, putt-putt, go carts, batting cages, etc.), kennel, and trucking services.

Commercial development along Okemos Road, north of I-96, is primarily limited to service stations and both fast food and traditional restaurants. Commercial development along Okemos Road, south of I-96, is limited to a restaurant and the largest single office building in the Township – the Jackson National Life office headquarters. Situated at the southwest corner of the I-96 interchange, the headquarters consist of approximately 250,000 square feet of floor area in a four-story building. The primary building and other support facilities, including parking and a child care facility, cover approximately 35 acres.

In 1999, Alaiedon Township entered into a 425 Agreement with the City of Lansing. Public Act 425 of 1984 enables two local units of government to conditionally transfer property by written agreement for the purpose of economic development projects. This Agreement was executed in response to interest by Jackson National Life to relocate its headquarters in Alaiedon Township. Key land development and public services elements of the Agreement can be summarized as follows:

1. The Agreement covers approximately 203 acres along the south side of I-96, extending from the southwest corner of the interchange to Dobie Road. Okemos Road splits the Agreement area approximately in half.
2. The Agreement area is conditionally transferred to the City of Lansing.
3. The Agreement area will revert back to the jurisdiction of Alaiedon Township upon the termination, expiration or non-renewal of the Agreement.
4. The City of Lansing will provide public water, sewer, and electricity to the Agreement area.
5. Zoning and land use authority over the Agreement area is under the City's jurisdiction, although Alaiedon Township is granted agency status for the purpose of preliminary and final site plan reviews. Under the City's Zoning Ordinance, the majority of the Agreement area west of Okemos Road, including the site of Jackson National Life, is zoned G-1. The balance of the Agreement area is zoned D-1.
6. Zoning authority over the west Agreement area will revert back to Alaiedon Township should Jackson National Life (or its successors in interest) no longer retain ownership of the acreage.
7. Zoning authority over the east Agreement area will revert back to Alaiedon Township should Jackson National Life or the City seek a rezoning of any of the east Agreement area, and the area shall be zoned for professional office development.

In addition to the commercial development in the Okemos/Jolly road areas, there are several businesses along Cedar Street in the Township's southwest corner, including a water adventure park, small medical office, and a home improvement business. A construction equipment sales and rental facility is located at the I-96/Holt Road interchange on the south side of Holt Road, and an abandoned service station is located just to the north.

Industrial development is generally limited to the Dart Container Company, also located on Cedar Street and adjacent to U.S. 127. The manufacturing facility extends south across Cedar Street into Vevay Township.

## **Community Facilities & Services**

### **Government Administration**

A five member Township Board governs Alaiedon Township. Township offices are located in the Township Hall on the south side of Holt Road, one-half mile east of Okemos Road. The Hall was constructed in 1959 and expanded in 1981. The Hall includes a central office area, township board meeting room, restrooms, and a community meeting room capable of accommodating approximately 100 people. The community meeting room is available to the public. The Hall does not include offices for elected officials. The majority of administrative activities are carried out within their private residences.

### **Cemeteries**

Alaiedon Township operates and maintains four cemeteries, and include:

- DuBois Cemetery; Every Rd. in Sec. 35.
- Rockwell/Foote Cemetery; Hagadorn Rd. in Sec. 5.
- Leek Cemetery; Dobie Road in Sec. 3.
- Strickland Cemetery; Holt Rd. in Sec. 19.

Leek Cemetery is the largest of the four facilities with considerable available space.

### **Education**

Alaiedon Township is served by three public school districts. The vast majority of the Township, including the entire southern half, is served by Mason Public Schools. Portions of the northeast corner of the Township are served by Williamston Community Schools. Portions of the north-central area of the Township are served by Okemos Public Schools. The Alaiedon Elementary School, located on Okemos Road one-half mile south of Holt Road, is the only public school facility in the Township.

### **Public Sewer and Water**

Public sewer and water serve only limited portions of Alaiedon Township. Alaiedon Township contracts with Meridian Township (to the north) for sewer and water service in the Okemos /Jolly Roads area. This service area extends approximately one-half mile to the east and west of Okemos Road, between I-96 and Jolly Road. As part of the 425 Agreement between Alaiedon Township and the City of Lansing, the City has extended public sewer to the Jackson National Life property at the southwest corner of the Okemos Rd./I-96 interchange. The sewer and water service is available to all properties contained in the 425 Agreement area.

The Township has also entered into a contract with the City to introduce public sewer and water to approximately 250 acres directly east of Hagadorn Road between I-96 and Jolly Road. Construction is expected to be completed in 2002.

The provision of city water in the above-noted areas includes a water line along the entire length of Sandhill Road between College and Okemos Roads, and along Hulett Road. Only property owners along Hulett Road may tap into this line for service. Similarly, Delhi Township is improving its water service by the completion of a loop system that will follow the entire length of College Road, south of Dell Road. Alaiedon Township property owners along this line will be able to receive public water service upon payment of a hook-up fee.

The City of Mason provides sewer service to abutting Dart Container Company (in Alaiedon Township) directly north of the City.

### **Fire and Police Protection Services**

Alaiedon Township receives fire protection services from its neighbor to the west, Delhi Township. In addition to an annual stand-by fee paid to the Delhi Township Fire Department by Alaiedon Township to cover costs associated with the purchase and maintenance of vehicles and equipment, the Fire Department charges a user fee to those requiring its services. The Fire Department has mutual-aid agreements with surrounding communities. Thus, Alaiedon Township receives back-up service from other fire departments when necessary.

Police protection services are provided by the Ingham County Sheriff's Department. The Sheriff's Department provides emergency service to all area townships on an as-needed basis.

## **Ambulance Services**

Alaiedon Township residents rely on the Mason Area Ambulance Service for their ambulance needs. This private service is contacted by the County 911 dispatch service upon receipt of an ambulance call. Only user fees fund this service. The Delhi Township Fire Department is available for back-up service in the event the Mason Area Ambulance Service is not available to respond to an emergency call.

## **Recreation**

Public recreation facilities in Alaiedon Township are limited to those located on the Township Hall property and those at the Alaiedon Elementary School. The Township Hall property includes a small softball field, children's playground equipment, and an open play area. Alaiedon Elementary School provides traditional elementary school play facilities including swings, climbing equipment, informal grassed play areas, and basketball courts. Township residents also have access to recreational facilities and services of other school facilities, such as Mason High School, and those of nearby municipalities including the Cities of Mason and Lansing, as well as regional facilities operated by Ingham County and other public agencies. The Mason School District, through its Community Education Program, provides regional recreation activities for all age groups. Also, the Mason High School Athletic Department and various service organizations provide athletic opportunities for area youth.

## **Neighboring Conditions**

Just as cultural features within Alaiedon Township have bearing upon the Township's efforts to identify appropriate planning and future land use policies, so does the land use pattern along the Township's borders in neighboring communities. Existing land use patterns are important considerations, as are the planning policies and zoning that affects these abutting areas. Following is a review of land use conditions along Alaiedon Township's borders.

### **Meridian Township**

Meridian Township abuts the entire northern border of Alaiedon Township. Meridian Township's existing land use pattern along this border, the Jolly Road corridor, is of a mixed character. A combination of subdivisions and strip residential development (some on parcels of five to ten acres) characterizes most of the eastern half of Jolly Road. This pattern of development, along with the Hiawatha Elementary School, extends west

until the Okemos Road business area. This business area extends approximately one-half mile in either direction of Okemos Road. Development includes offices, retail sales, restaurants, and automobile sales and service. West of the business area, the corridor is characterized by a handful of residences and a farm field (recently zoned for office development). The balance of Jolly Road, beginning at Hulett Road, is characterized primarily by the Okemos High School and MSU's farm property. A convenience store and several residences are located to the east of Hagadorn Road.

The zoning currently in place generally coincides with the existing land use pattern noted above. Lands within one-half mile of Okemos Road generally fall within commercial and office-based districts. The balance of Jolly Road to the east falls within residential districts providing for development densities ranging from one to five dwellings per acre, with the higher densities districts located closer to Okemos Road. The balance of Jolly Road to the west, including the high school and Michigan State University property, falls within an approximately one-acre residential district. The principal exception is the northeast corner of Jolly and Hagadorn Roads, which is zoned for commercial development.

The township's 1993 Comprehensive Plan recommends development from Meridian Road to the Okemos Road business area, with development densities ranging from one-half to 2 1/2 dwellings per acre. The lower density range applies to the majority of this section of Jolly Road. The Okemos Road business area is designated for commercial development and extends approximately one-half mile east and west of Okemos Road. Office development is the primary use planned between the Okemos Road business area west to Hulett Road. The balance of the Jolly Road corridor, from the high school to College Road, is planned for primarily public use (MSU and high school). The northeast corner of the Hagadorn/Jolly Roads intersection is planned for residential and commercial development.

### **Wheatfield Township**

Wheatfield Township abuts the entire eastern border of Alaiedon Township. Wheatfield Township's existing land use pattern along this border is comprised of agricultural and some scattered residences. The zoning currently in place along this portion of Wheatfield Township generally coincides with the existing land use pattern noted above. Land to the north of I-96 and within one-half mile of Waldo Road is zoned for agriculture and residences, with minimum parcel sizes of

five acres. The balance is within an agricultural zone where residences are generally restricted to a density of one dwelling per forty acres. The township's 1994 Master Plan, amended in 1997, recommends the vast majority of its land area abutting Alaiedon Township be reserved for agriculture, with strong limitations on residential encroachment. The balance is planned for a mixed agriculture/rural residential pattern. These "rural residential" areas generally extend one-half mile north of I-96, and one-half mile north and south of Waldo Road.

### **Vevay Township**

Vevay Township abuts most of Alaiedon Township's southern border, with the City of Mason accounting for the balance. Vevay Township's existing land use pattern along this border is comprised of agricultural and some scattered residences. The zoning currently in place along Vevay Township's northern periphery generally coincides with the existing land use pattern noted above, allowing for agriculture and residential development on minimum one-acre parcels. The Cedar Street/ Howell Road intersection area includes both commercial and industrial zoning. Undeveloped areas generally fall within an agricultural zone where the minimum lot size permitted is one acre. The township's 1992 Master Plan, recommends the vast majority of its land area abutting Alaiedon Township be reserved for a mix of agriculture and residential development. The primary exceptions are in the township's northwest corner near the I-96/ Cedar Street interchange. Commercial and industrial uses are planned in the immediate interchange area, and multiple family development is planned further to the west. Vevay Township is currently in the process of updating its Comprehensive Plan.

### **Delhi Township**

Delhi Township abuts the entire western border of Alaiedon Township. Delhi Township's existing land use pattern along this border is one of predominantly agriculture and strip residential development. Agriculture is most dominant near the I-96/U.S. 127 interchange (MSU property) and between Holt and Harper Roads. The principal exception to the agriculture and strip residential development is the southwest corner of the College Road/Cedar Street intersection, where the Spartan Speedway is located. The zoning currently in place along Delhi Township's eastern periphery generally coincides with the existing land use pattern discussed above. Undeveloped areas generally fall within an agricultural zone where the minimum lot size permitted is one acre. The township's 1998 Comprehensive Plan recommends the vast majority of its land area abutting Alaiedon

Township be reserved for residential development at densities of approximately three dwellings per acre. The principal exceptions are: 1) the I-96/U.S. 127 interchange area is reserved for public land (Michigan State University); 2) office, commercial and manufacturing is planned for the Holt/College Roads intersection and extending south approximately one-half mile along College Road; and 3) commercial development is proposed along the south side of the Cedar Street/College Road intersection. Delhi Township is currently re-examining its policies regarding land use along the Cedar Street corridor, south of Holt Road.

### **City of Mason**

The City of Mason abuts the west-central portion of Alaiedon Township's southern border, and extends into Alaiedon Township's congressional border to occupy approximately 170 acres. The current zoning provides for residential development of four dwellings per acre along the City's northern limits, generally between Jefferson Road and the Conrail Railroad. Land further west is zoned for manufacturing, while land to the east is zoned for residential development of one to 1.5 dwellings per acre. Except for the northwest corner of the City which is in agricultural use, the city's existing land use pattern along this border generally mirrors that of the current zoning. The portion of the city that extends into Alaiedon Township's congressional border is zoned for residential development of one to 1.5 dwellings per acre and is occupied by the Ingham Intermediate School District facility. The city's 1991 Comprehensive Plan proposes residential development of three to five dwellings per acre along the City's northern limits, east of the Conrail Railroad. Industrial development is planned to the west of the railroad. The city is currently in the process of updating its Comprehensive Plan.

## Appendix B

# ENVIRONMENTAL FEATURES

### Geology & Topography

During the Paleozoic era of geological history, Ingham County and the state as a whole was inundated by successive warm, shallow seas during which large amounts of sediment were deposited. These deposits subsequently lithified to form bedrock. Nearly the entire area of Alaiedon Township sits upon Saginaw Formation bedrock, consisting of sandstone with interbedded shale, limestone, coal and gypsum. The Ice Age brought four successive continental glaciers across the Great Lakes area. As these ice sheets moved southward from Canada, they scoured and abraded the surface of the land leaving behind deeper valleys and more rounded hilltops. The advancing glaciers carried large quantities of rock materials scraped and gouged from the land's surface. These materials were then deposited during the melting of the ice to form drift materials covering the bedrock below. While the depth to bedrock exceeds 800 feet in some parts of Michigan, the depth of the drift layer in Alaiedon Township ranges between 50 to 150 feet, and generally increases as one moves northward.

The Township's topography can be generally described as level to nearly level. The vast majority of the Township reflects grades of 2% or less. There are only limited instances where grades exceed 5%. Land areas with grades of 8% - 10% cover less than 200 acres and are scattered Throughout the Township, with the greatest concentrations in the eastern third of the Township. There is only approximately 120 feet in difference between the Township's highest and lowest elevations. The lowest elevations, approximately 840 feet above sea level, can be found along the banks of Sycamore Creek, just south of Sandhill Road and U.S. 127. The highest elevations, approximately 960 feet above sea level, are present in several instances

near the Township's east boundary (Meridian Road).

The character of an area's geology and topography has bearing on development and land use planning. Land use planning guidelines recommend that development be generally discouraged in areas dominated by 12% - 18% slopes, and severely limited in steeper areas. Geology can also impact the availability of potable water, and this issue is further discussed under "Groundwater."

### Drainage & Water Courses

Drainage is facilitated through a network of water-courses (See "Water Courses and Flood Hazard Areas" Map). The most dominant is Sycamore Creek. With the secondary drains that feed it, Sycamore Creek drains the vast majority of the Township. It flows north through the far western periphery of the Township. Mud Creek and its tributaries drain much of the southern and central portions of the community and flows into Sycamore Creek one-half mile south of the Holt Rd./US 127 interchange. Portions of the Township's northern areas drain into the Button and Herron Drains, which flow northward into Meridian Township and empty into the Red Cedar River. The Red Cedar subsequently flows into the Grand River in Lansing, as does Sycamore Creek, and the Grand River ultimately empties into Lake Michigan. All runoff in Alaiedon Township flows into Lake Michigan. The other surface water feature of significance is Doble Lake in Sections 10 and 11. The lake covers approximately 60 acres and is the Township's only natural water body in excess of five acres. A network of wetlands also help to aid drainage.

Lands abutting or in close proximity to drainage courses, such as streams, ponds, and lakes, are subject to flood conditions where the drainage courses do not have the capacity to accommodate the rate of runoff from a single heavy rainfall or numerous lighter rainfalls over a relatively short period of time. Serious flooding has not been a common occurrence in Alaiedon Township. This is due in large part to the comparatively limited development (impervious surfaces) in the Township, and the network of drainage courses and wetlands that carry and store runoff.

The Federal Emergency Management Agency performed a flood study in 1977 as part of the Township's involvement in the National Flood Insurance Program. The study identified portions of the Township's drainage corridors as areas of "special flood hazard without base flood elevations determined." The delineation of these special flood hazard areas was largely based upon historical flood conditions and soil characteristics, as opposed to in-depth engineering studies commonly undertaken today. The spring flood of 1975, considered to be synonymous with a flood event apt to occur once during a 100-year period, significantly impacted the delineation of the special flood hazard areas. The special flood hazard areas are generally limited to the drainage and wetland corridors associated with Sycamore Creek, Mud Creek, Branch Drain, and Button Drain.

Although Alaiedon Township may be relatively free of any regular threat of flooding, improperly managed land development practices can impact flood conditions both in the Township and in communities downstream.

## Groundwater

As runoff flows across land surfaces and travels through drainage courses, a portion of the runoff seeps into the ground and collects in great quantities in the underlying soils and deeper bedrock. These reservoirs of water are referred to as aquifers and serve as the sources of drinking water for nearly all residents of Alaiedon Township.

The water drawn from the Saginaw Formation aquifer is considered to be of very good quality. Aquifers can be "confined" or "unconfined" systems. Confined systems have an impermeable soil layer (typically clay) above them which acts to confine the aquifer and protect the aquifer from contaminants seeping into the subsurface above the confining soil layer, such as petroleum products, fertilizers, and improperly disposed household liquids. Unconfined systems

do not have this protective layer of clay soil and are much more prone to contamination. Data from well logs suggest that while a confining clay or shale layer is present in areas of the Township, this protective cover does not extend across the entire Township.

## Vegetation

Vegetative cover in Alaiedon Township is comprised largely of cropland, accounting for approximately two-thirds of the Township area. The principal exceptions are those areas characterized by wetlands, woodlands, or residential development and its associated lawn areas.

There are approximately 3,000 acres of wetlands in the Township, comprising 13% of its landscape (See "Wetlands" Map). The wetlands are located throughout the Township but are most prominent along the stream and creek corridors, particularly that of Sycamore Creek. The greatest continuous expanse of wetlands follows Sycamore Creek from south of Howell Road to the US 127/Holt Road interchange, a distance of more than three miles and more than 300 acres in area. Just over half of the wetlands are comprised of lowland hardwoods such as ash, elm, soft maples, and cottonwoods. The balance is comprised of shrub and emergent wetlands.

In addition to the lowland woodlands that comprise portions of the wetlands, there are approximately 650 acres of upland woodlands in the Township (See "Woodlands" Map). These woodlands are predominantly characterized by such species as sugar and red maple, elm, beech, cherry, basswood, and white ash. The upland woodlands are scattered somewhat evenly throughout the Township and typically range between 10 and 30 acres in size.

The network of wooded and non-wooded wetlands is important because of the vital role these resources play in flood control, runoff purification, groundwater recharge, wildlife habitats, recreational opportunities, and supporting the rural character of the Township. Wetlands are environmentally sensitive resources and can experience degradation and destruction due to changes in water levels, erosion and sedimentation, filling, dredging, and draining. The degradation or pollution of a wetland area can have a destructive impact upon wetlands and related woodland resources distances away due to the frequent physical linkages between these resource areas. In addition to the environmental constraints wetlands pose for development, wetlands present severe physical constraints for land development due to flooding and

instability of soils.

## Soils

The U.S. Department of Agriculture, Natural Resources Conservation Service, has prepared a soil survey for Ingham County. The survey reveals that well drained to poorly drained loamy soils predominate in Alaiedon Township and account for approximately two-thirds of the Township area. The balance of the Township is characterized by primarily sandy soils. Muck soils are frequently evident in areas characterized by wetlands.

The character of soils can have a profound impact upon the suitability of future land uses with regard to groundwater contamination, buckling and shifting of foundations and roads, erosion, on-site sewage disposal, and agricultural productivity. The Natural Resources Conservation Service has identified specific individual soil units throughout the County based upon the characteristics of the upper soil layers (approximately five feet in depth) which provides a reliable basis for Township planning purposes.

According to the Natural Resources Conservation Service, nearly the entire Township presents severe limitations to septic systems due to seasonally high water tables, ponding, poor soil filtration characteristics and/or soil wetness. A primary concern is the soil's ability to absorb and break down the leachate from the septic drain fields before it reaches underground water supplies. This can be particularly troublesome where soils are characterized by wetness and poor percolation rates. For example, vast areas of the Township are characterized by Capac loam soils of 0% - 3% grade. According to the soil survey, the winter and spring seasonal high water table approaches to within one to two feet of the ground surface. Limitations on septic system by soils can often be overcome with increased lot sizes and/or specially engineered septic systems at additional costs. Soils that present only moderate or slight limitations to septic tank absorption are scattered throughout the Township in a marbled pattern and cover less than 5% of the entire Township.

The Ingham County Health Department is responsible for issuing permits for on-site sewage disposal. A permit will not be issued unless all county requirements have been met. Under typical conditions, sites approaching two acres are generally adequate to meet the Health Department's requirements for effective septic systems, including a back-up area should the initial drain field fail. Even on a two-acre site, a mounded system (raised) is frequently required to minimize soil wetness below. Sites approaching one acre must meet more stringent standards and may not be able to do so due to soil conditions. Development at this density may require a sewer system.

It should be noted that while a site may be classified by the Natural Resources Conservation Service as presenting a limitation to septic systems and building construction, on-site investigation may show the classification to be less than fully accurate and/or show that the deeper soils (more than five feet deep) present different characteristics than the upper layer soils and thus, varying limitations. For example, the Ingham County Health Department has found many locations in Alaiedon Township to be characterized by heavy clay soils although the Soil Survey does not suggest this condition. On-site investigations should be carried out before specific land development projects are initiated.

While the area soils present primarily severe limitations to septic drain fields, approximately 75% of the Township is classified by the Natural Resources Conservation Service as *prime farmland* and the majority of the balance is classified as *additional farmland of local importance*. (See "Farmland Resources" Map). The Natural Resources Conservation Service generally defines *prime farmland* as land that is, under proper management, particularly well suited to food, feed, forage, fiber, and oilseed crops and is capable of producing sustained high yields. These prime farmland areas are most concentrated in the Township's eastern third and within 1 to 1 ½ miles of Okemos Road. *Additional farmland of local importance* is generally defined as land that is nearly prime farmland and that economically produce high yields (under proper management).

## Climate

The climate of Alaiedon Township can be classified as mild. Based upon data collected by the Department of Agriculture between 1947 and 1976 in East Lansing, the average daily temperature is 47.4° F. By comparison, the average daily temperature in Sault St. Marie in the Upper Peninsula is 39.7° F. The average summer temperature is 68.9° F and the highest recorded temperature of 102° F occurred in July of 1934. The average winter temperature is 24.9° F and the lowest recorded temperature of -33° F occurred in February of 1875. Average yearly precipitation is 29.84 inches and average yearly snowfall is 39.4 inches. June is typically the wettest month with an average rainfall of 3.64 inches.

Because the day-to-day weather is controlled by the movement of pressure systems across the nation, this area seldom experiences prolonged periods of hot, humid weather in the summer or extreme cold during the winter. The lake effect, so noticeable in many areas of Michigan, is limited in the Alaiedon Township regional area. However, the prevailing westerly winds blowing over Lake Michigan often produce cloudiness which extends across Michigan's entire Lower Peninsula, modifying fall and early winter temperatures. Weather conditions change gradually between the seasons. The climate of Ingham County as a whole is favorable for the growth of most farm crops cultivated in Michigan.



# Appendix C

# DEMOGRAPHIC FEATURES

## Population Growth Trends

Alaiedon Township's population has been rising steadily for the past 60 years. The population grew from 1,132 persons in 1940 to 3,498 in 2000. The 10.2% growth in the 1990's, the lowest during the past 60 years, occurred at the same time the County's population decreased by approximately 1% (largely due to the population loss in the City of Lansing). The Township's growth rates during the past 30 years have consistently outpaced those of the County and State, frequently by 200% or more. As a result, the Township's share of the County population has been steadily increasing. Its 0.86% share of the County population in 1940 rose to 1.25% in 2000. Alaiedon

Township's growth is a reflection of the trend across Michigan – persons exiting urban areas for a more suburban and rural life style. The Township's 10.2% growth during the 1990s was more than 2 1/2 times the average 4% growth experienced by all townships across the state.

The Township's rising population has increased population density. The Township's population density was 31.5 persons per square mile in 1940 and increased to 97.2 persons per square mile in 2000. By comparison, Meridian Township, the County's most populated township, had a 2000 population of 39,116 persons and a population density of 1,150.5 persons per square mile.

**TABLE C-1**  
**Population Trends & Growth Rates**  
(growth rates indicated by "%")

YEAR	ALAIEDON TOWNSHIP		INGHAM COUNTY		STATE of MICHIGAN	
1940	1,132		130,616		5,256,106	
1950	1,486	31.3%	172,941	32.4%	6,371,766	17.6%
1960	2,070	39.3%	211,296	22.2%	7,823,194	18.6%
1970	2,487	20.1%	261,039	23.5%	8,881,826	11.9%
1980	2,845	14.4%	275,520	5.5%	9,262,078	4.1%
1990	3,173	11.5%	281,912	2.3%	9,295,297	0.4%
2000	3,498	10.2%	279,320	-0.9%	9,938,444	6.9%

Source: U.S. Census Bureau

## Population Projections

Estimating future population growth can provide important insights into identifying future land use and public services needs. Projecting the growth of a community's population over a prescribed period of time is not an exact science. The many unpredictable factors which affect growth make population projections somewhat speculative. By using several projection techniques, a range of growth estimates can be generated. These shed light on potential growth if planning policies and land development regulations are generally held constant.

The current trend approach assumes that the Township will continue to grow at a rate similar to that

which occurred between 1990 and 2000 (10.2% every ten years). The historical trend approach assumes the Township will grow at a rate that reflects the Township's average growth rate between the years 1940 and 2000 (21.1% every ten years). The ratio trend approach assumes the Township will increase its share of the County population by 0.06% each ten years – the average ten-year proportional share increase since 1940. The ratio trend projection yields a ten-year growth rate of approximately 5%. This projection relies on the Michigan Department of Management and Budget's county population projections that suggest a nearly constant population count in Ingham County through 2020. The average of the resulting projections yields a population of 3,910 in year 2010 and 4,381 in year 2020.

**TABLE C-2**  
**Alaiedon Township Population Projections**

Projection Method	Year 2010	Year 2020
Current Trend	3,823	4,179
Historical Trend	4,236	5,130
Ratio Trend	3,671	3,835
Average of Trends	3,910	4,381

## Social and Economic Characteristics

The following summarizes social and economic characteristics of Alaiedon Township. Additional demographic information is contained in the tables that follow.

The 2000 Census showed Alaiedon Township as a more homogeneous racial population than the County and State as a whole. 89.8% of the Township population was white, compared to 79.5% for the County and State. This homogeneity is typical of rural Michigan communities, as compared to more urban areas such as the City of Lansing. The 2000 median age of 39.2 years reflects a population that is considerably older than that of the County and State as a whole, surpassing the County's and State's median age by approximately 30% and 10% respectively. This increased maturity is a result of the comparatively high number of residents falling within the 40 – 64 years age category. For instance, while the 37.3% of the Township's population between 40 – 64 years of age was 36.6% higher than the County's, the 2.5% of the

County's population of 80 years or older was 25.0% higher than that of Alaiedon Township. Like the nation, the Township's residents are continuing to mature. Its 2000 median age of 39.2 years reflects a 38.0% increase over its 1990 median age of 28.4 years. (see Table C-4)

The 2000 Census recorded 1,115 households and 878 families in the Township. Both the average family and household size was 3.1 persons. Of all the households in the Township, 71.3% included a married-couple. This percentage was significantly higher than that for the County (43.0%) and State (51.4%) as a whole. 64.4% of the non-married family households were headed by a female householder, a significantly smaller portion as compared to the County (76.6%) and State (75.3%). Approximately one of every five households in the Township was a non-family household – a rate approximately half that of the County as a whole. (see Table C-5)

**TABLE C-3**  
**Race, 2000**  
 (by percent)

RACE	ALAIEDON TOWNSHIP	INGHAM COUNTY	STATE OF MICHIGAN
White Alone	89.8	79.5	80.2
Black/African American Alone	6.1	10.9	14.2
American Indian, Alaska Native Alone	0.6	0.5	0.6
Asian Alone	1.4	3.7	1.8
Native Hawaiian/Other Pacific Islander Alone	0.1	0.1	0.0
Some Other Race Alone	0.9	2.4	1.3
Two or More Races	1.1	3.0	1.9

Source: 1990 U.S. Census

**TABLE C-4**  
**Age, 2000**  
 (By Percent, except where otherwise noted)

AGE	ALAIEDON TOWNSHIP	INGHAM COUNTY	STATE OF MICHIGAN
Under 5 yrs.	4.1	6.3	6.8
5 - 17 yrs.	17.6	17.1	19.4
18 - 24 yrs.	9.9	18.5	9.4
25 - 39 yrs.	20.1	21.4	21.6
40 - 54 yrs.	26.2	20.2	21.9
55 - 64 yrs.	11.1	7.1	8.7
65 - 79 yrs.	9.0	6.9	9.1
80 yrs. or more	2.0	2.5	3.2
Median Age	39.2 yrs.	30.4 yrs.	35.5 yrs.

Source: 2000 U.S. Census

**TABLE C-5**  
**Household Type, 2000**  
 (by percent)

HOUSEHOLD TYPE	ALAIEDON TOWNSHIP	INGHAM COUNTY	STATE OF MICHIGAN
Married-couple family	71.3	43.0	51.4
Other family:	7.5	15.8	16.6
Male householder	2.8	3.7	4.1
Female householder	4.7	12.1	12.5
Non-family household	21.3	41.3	31.9
Male householder	10.9	19.0	14.9
Female householder	10.4	22.3	17.0

Source: 2000 U.S. Census

The Township's labor force through July of 2002 was comprised of 1,725 persons. The three principal employment industries in year 2000 for Alaiedon Township workers, as well as for the County, were (1) education, health, and social services (2) professional and related services, and (3) retail trade. These industries alone accounted for 49.9% of residents' employment. Education, health, and social services accounted for 26.4% of local residents' employment, a rate comparable to the County and significantly lower than the State as a whole (19.9%). In contrast, while the manufacturing industry accounted for the greatest portion of State workers' employment (22.5%), it accounted for only 9.6% and 10.4% of the Township and County workers' employment respec-

tively. The 3.1% of Township residents employed in the agriculture, forestry and fisheries industry was more than four times that of the County and nearly three times that of the State (see Table C-6). The unemployment rate in Alaiedon Township during 2001, through October, was 1.8%, compared to 3.4% for the County. This 1.8% unemployment rate is just over half (3.4%) of its average rate for 1990.

6.1% of Township workers worked in their home, compared to 3.0% and 2.5% for the County and State respectively. The average commute time for Township workers was 20.8 minutes.

**TABLE C-6**  
**Employment by Industry, 2000**  
 (employed persons 16 years and older, by percent)

OCCUPATION	ALAIEDON TOWNSHIP	INGHAM COUNTY	STATE of MICHIGAN
Education, health, and social services	26.4	27.3	19.9
Professional, scientific, management, administrative, waste management, and other services	13.6	12.7	12.6
Retail trade	9.9	10.9	11.9
Manufacturing	9.6	10.4	22.5
Finance, insurance, and real estate	8.6	6.4	5.3
Construction	7.5	4.9	6.0
Public administration	7.4	8.7	3.6
Art, entertainment, recreation, accommodations, and food services	5.9	9.4	7.6
Transportation, warehousing, and utilities	3.5	3.1	4.1
Agriculture, forestry, fishing, hunting, and mining	3.1	0.7	1.1
Information	2.5	2.7	2.1
Wholesale trade	2.1	2.7	3.3

Source: 2000 U.S. Census

For those employed in 1999, workers' income characteristics placed the Township in a significantly more prosperous position than the County and State as a whole. The Township's income levels were 30% – 59% higher than the County and State as a whole for median household income (\$64,680) and median family income (\$69,261). The Township's per capita income of \$24,048 was nearly 10% greater than the County and State as a whole. The rate of Township persons (5.2%) and families (1.9%) that were below poverty level was between one-quarter and one-half the rate for the County and State. (see Table C-7)

The 2000 Census revealed Alaiedon Township residents had a somewhat comparable level of formal education as the County, but somewhat higher than the State as a whole. 90.0% of Township residents 25 years or older had received a high school education or higher, compared to 88.1% for the County and 83.4% for the State. A Bachelor's degree or higher was the highest level of education for 32.2% of Township residents (25 years or older), compared to 33.0% for the County and 21.8% for the State. 15.5% of Township residents had received a Graduate or Professional degree, a rate slightly higher than the County (14.4%) and nearly twice that of the State (8.1%).

**TABLE C-7**  
Income, 1999

INCOME CHARACTERISTIC	ALAIEDON TOWNSHIP	INGHAM COUNTY	STATE OF MICHIGAN
Median household income	\$64,680	\$40,774	\$44,667
Median family income	\$69,261	\$53,063	\$53,457
Per capita income	\$24,048	\$21,079	\$22,168
Families below poverty level	1.9%	8.3%	7.4%
Persons below poverty level	5.2%	14.6%	10.5%

Source: 2000 U.S. Census

**TABLE C-8**  
Highest Level of Education Attainment, 2000  
(for persons 25 years of age, by percent)

HIGHEST EDUCATION ATTAINMENT	ALAIEDON TOWNSHIP	INGHAM COUNTY	STATE of MICHIGAN
Less Than 9th Grade	2.8	3.3	4.7
9th to 12th, no diploma	7.3	8.6	11.9
High School Diploma	24.6	23.4	31.3
Some college, no degree	23.7	24.1	23.3
Associates Degree	9.5	7.7	7.0
Bachelor's Degree	16.7	18.5	13.7
Graduate/Professional Degree	15.5	14.4	8.1
High school graduate or higher	90.0	88.1	83.4
Bachelor's degree or higher	32.2	33.0	21.8

Source: 2000 U.S. Census

Appendix D  
**INVENTORY  
MAPS**

# ALAIEDON TOWNSHIP MASTER PLAN

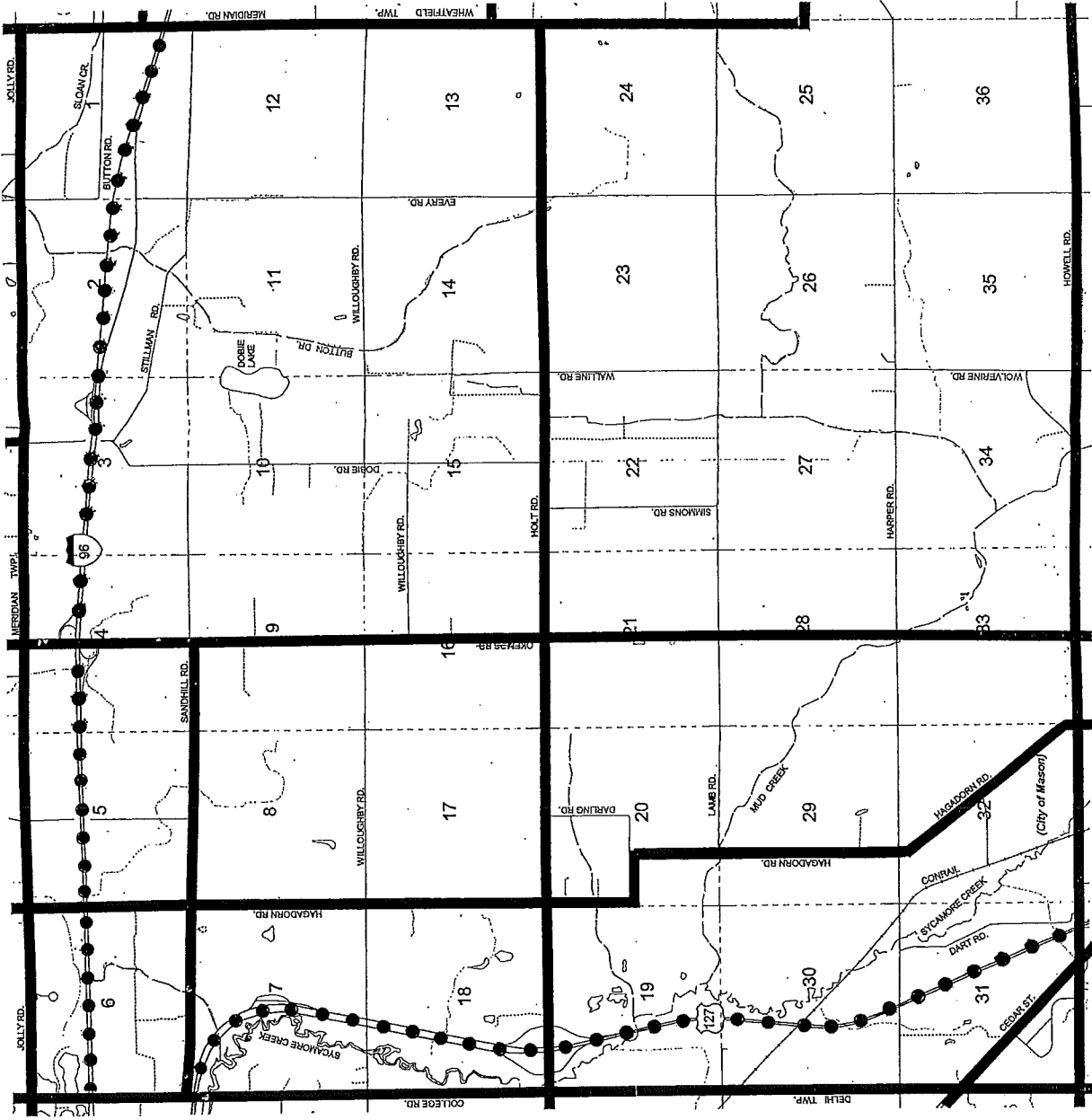
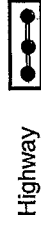
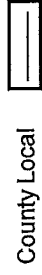
## PUBLIC ROADS

Information Source  
Ingham County Road Commission



Approx. Scale in Feet: 3,300

### LEGEND



December 17, 2002

# ALAIEDON TOWNSHIP MASTER PLAN

## EXISTING LAND USE (GENERAL)

Information Source  
Michigan Information Resource System, 1978;  
Michigan Department of Natural Resources;  
1995 Aerial Photography, and Windshield Survey.



Approx. Scale in Feet: 3,300

### LEGEND



Predominantly Agriculture and associated natural areas, and scattered residential development.



Low Density Residential, with parcel sizes typically approaching five acres or more, and associated natural areas



Urban and Suburban Residential, including subdivisions, and mobile home parks. Lots are typically two acres or less in size.



Commercial, single business



Commercial, business center



Industrial



Public, limited to school facilities, cemeteries, and Township Hall

December 17, 2002





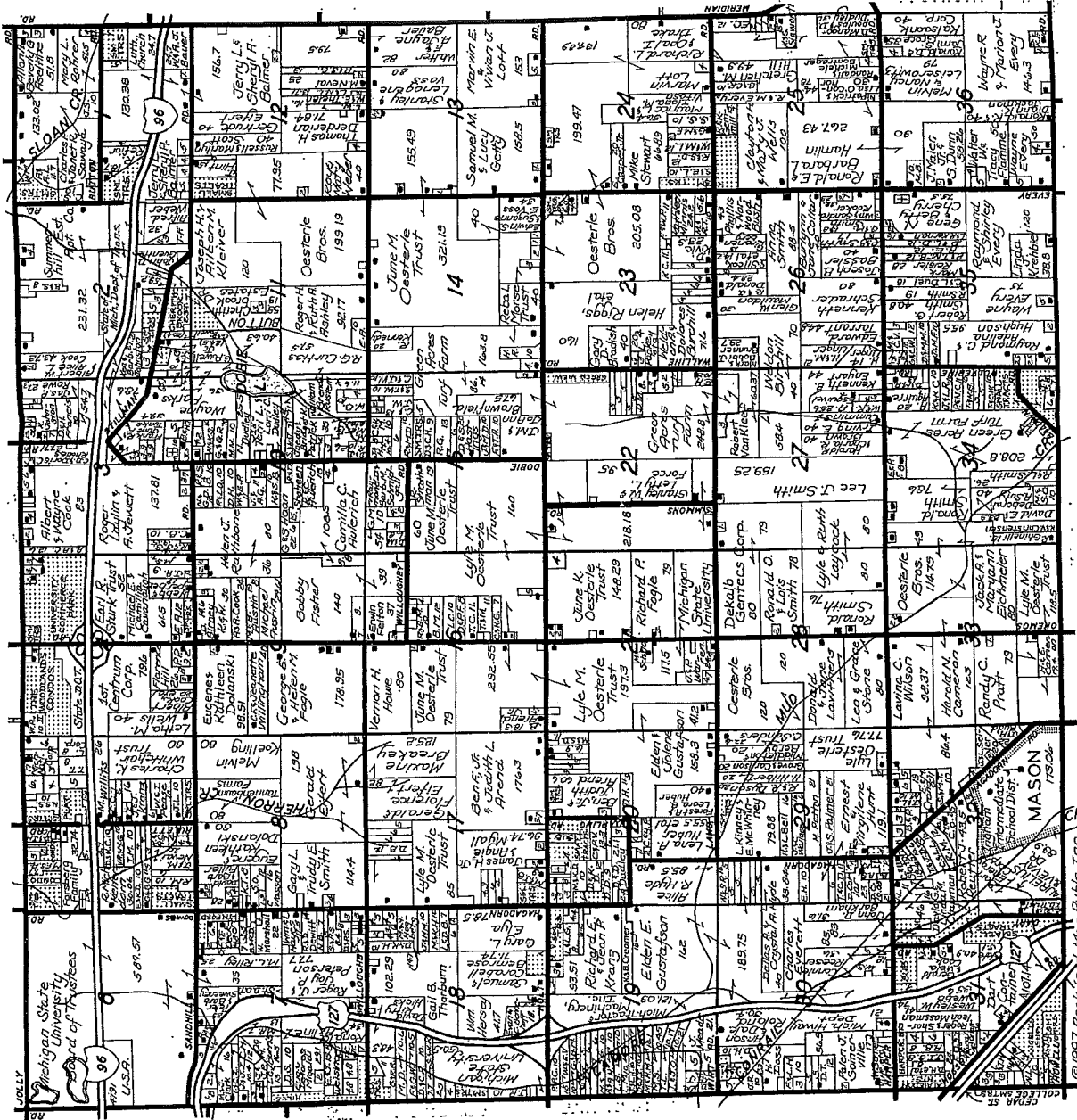
# ALAIEDON TOWNSHIP MASTER PLAN

## LAND DIVISION

Map Source  
Rockford Map Publishers, Inc., 1997



Approx. Scale in Feet: 3,300



December 17, 2002

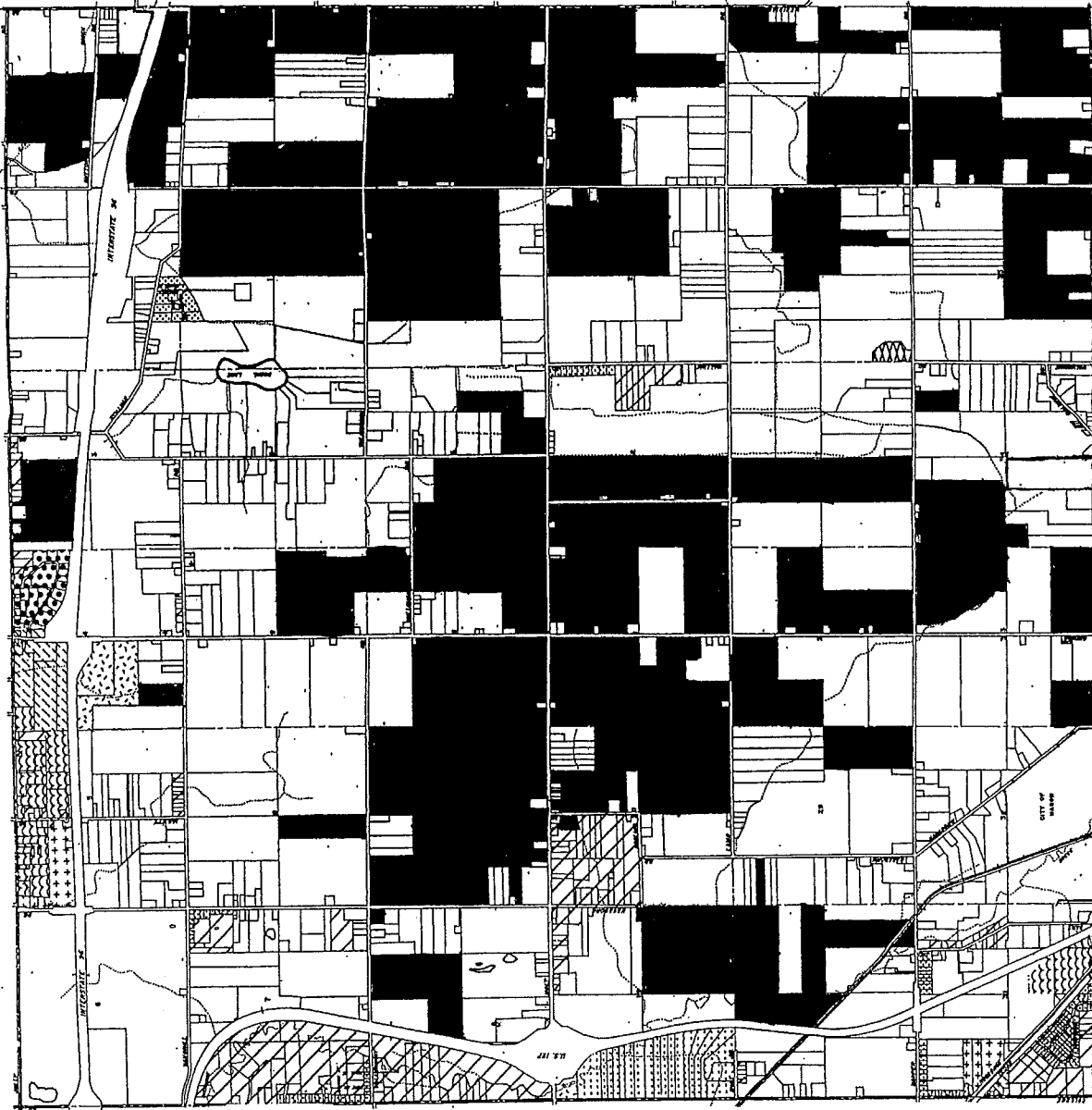
**ALAIEDON TOWNSHIP  
MASTER PLAN**

**P.A. 116 LANDS**

Map Source  
Alaiedon Township

North ↑

Approx. Scale in Feet: 3,300



December 17, 2002

**ALAIEDON TOWNSHIP  
MASTER PLAN**

**WATER COURSES  
and  
FLOOD HAZARD AREAS**

Map Source  
Federal Emergency Management Agency

North ↑

Approx. Scale in Feet: 3,200

**LEGEND**



Principal Water Courses



Special Flood Hazard Areas



Water Bodies



December 17, 2002

# ALAIEDON TOWNSHIP MASTER PLAN

## WETLANDS

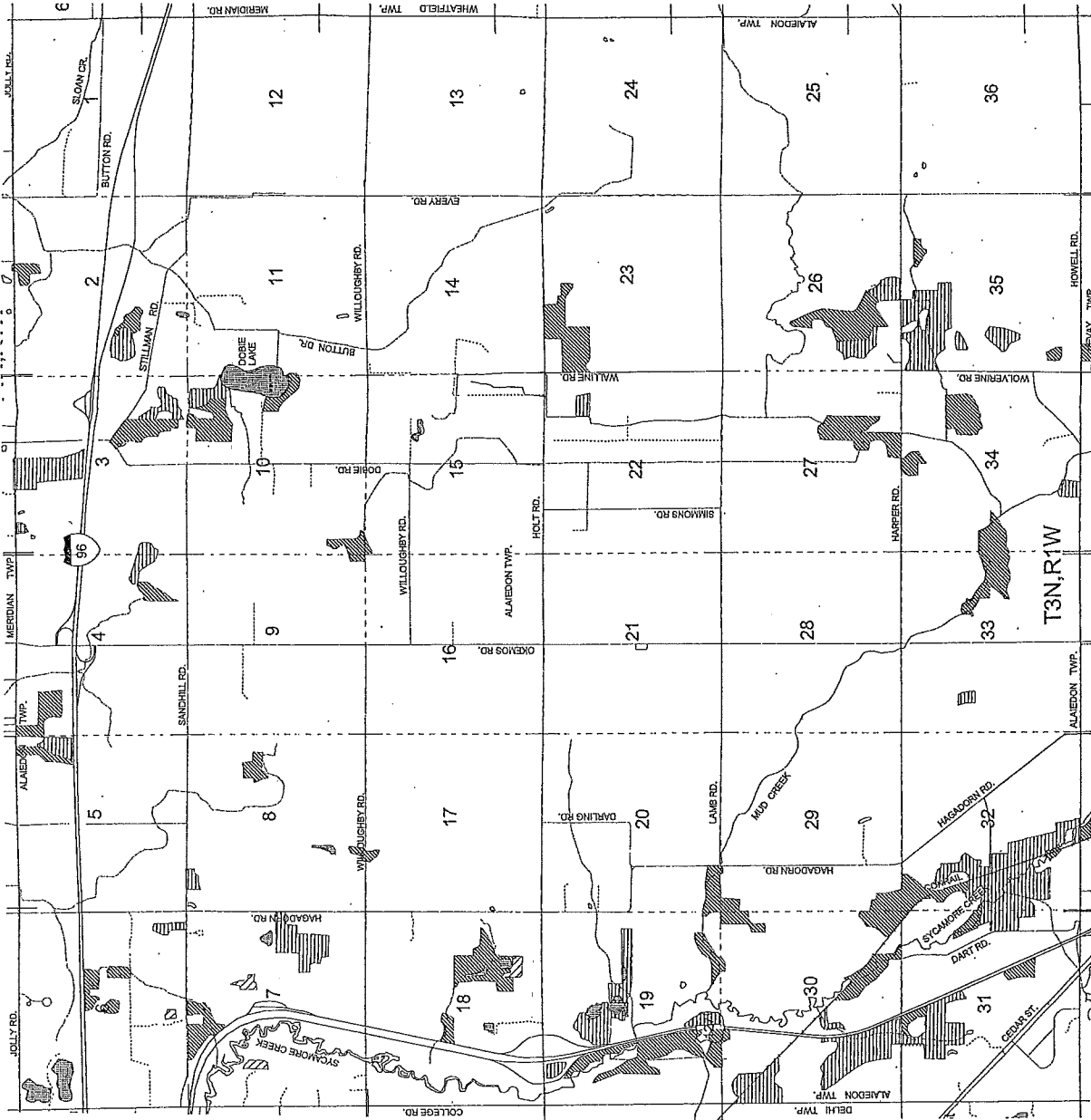
Map Source  
Michigan Information Resource System, 1978,  
Michigan Department of Natural Resources.



Approx. Scale in Feet: 3,300

### LEGEND

- Open Water
- Aquatic Bed Wetland
- Emergent Wetland
- Flats
- Lowland Conifer
- Shrub/Scrub Wetland



December 17, 2002

# ALAIEDON TOWNSHIP MASTER PLAN

## WOODLANDS

Map Source  
Michigan Information Resource System, 1978,  
Michigan Department of Natural Resources.

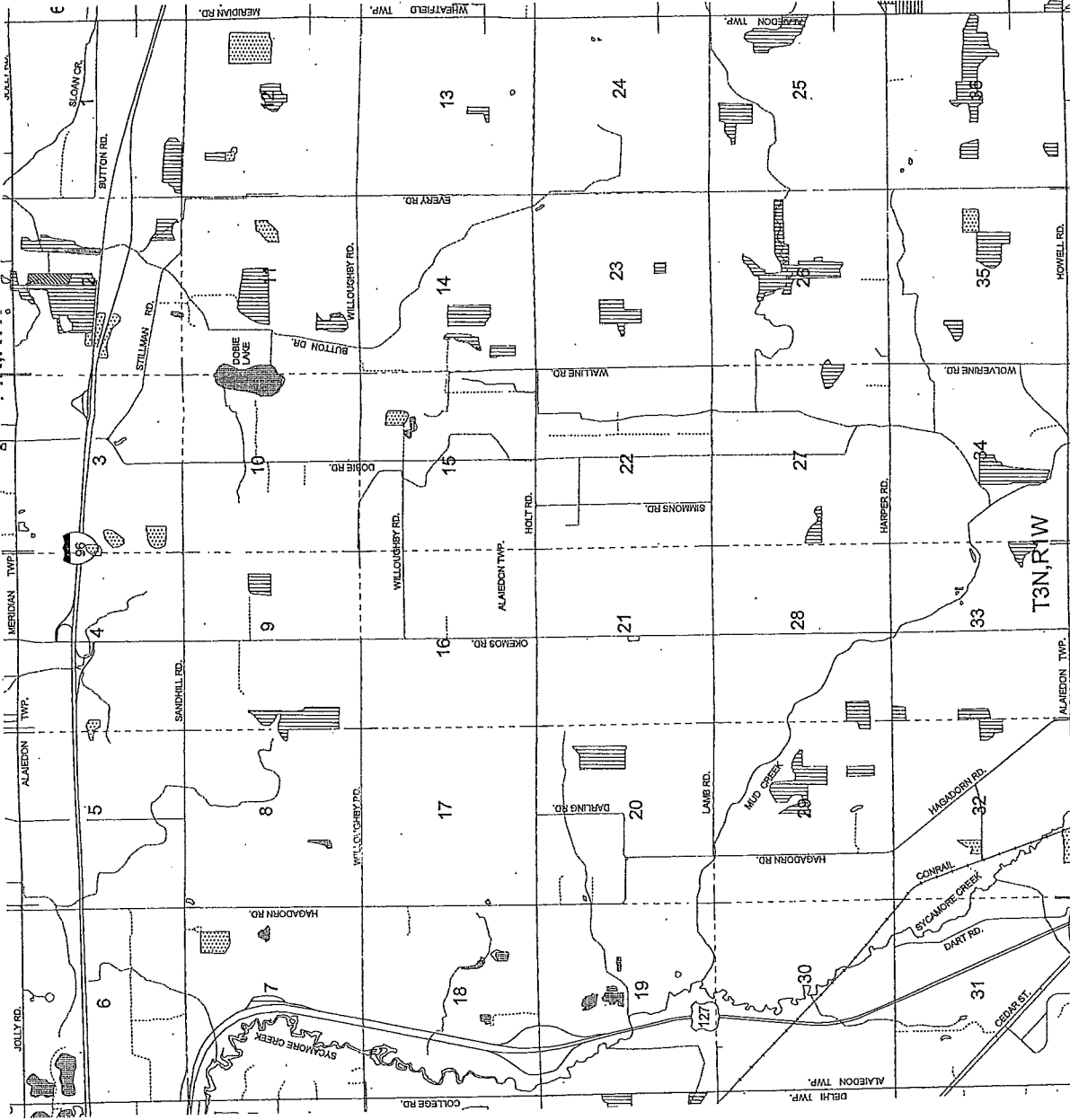


Approx. Scale in Feet: 3,300

### LEGEND

- Open Water
- Aspen, Birch
- Central Hardwood
- Christmas Tree Plantation
- Other Upland Conifer
- Pine

December 17, 2002




# ALAIEDON TOWNSHIP MASTER PLAN


## FARMLAND RESOURCES


Information Source  
Natural Resources Conservation Service,  
U.S. Dept. of Agriculture




Approx. Scale in Feet:  3,300

### LEGEND

 Areas predominantly classified as "Prime Farmland."

 Areas predominantly classified as "Additional Farmland of Local Importance"

 Areas predominantly classified as "Other Land" and "Urban Growth"

Note: Land need not be actually farmed to be classified as "farmland."

December 17, 2002

