
2002 - 2020
MASTER PLAN

PREPARED FOR:
DELHI CHARTER TOWNSHIP
2074 N. AURELIUS ROAD
HOLT, MI 48842

PREPARED BY:
HNTB ARCHITECTS, ENGINEERS, PLANNERS
333 ALBERT STREET, SUITE 420
EAST LANSING, MI 48823

&

DEPARTMENT OF COMMUNITY DEVELOPMENT
DELHI CHARTER TOWNSHIP

ORIGINAL DATE OCTOBER 14, 2002
AMENDED AUGUST 22, 2005

TABLE OF CONTENTS

Acknowledgements _____ **1**

Board of Trustees of Delhi Charter Township _____ **1**

Planning Commission of Delhi Charter Township _____ **1**

2000-2020 Master Plan Key Person Interviewees _____ **1**

Delhi Charter Township Staff _____ **2**

A Brief Introduction _____ **3**

Background & Perspective _____ **5**

Township Land Use Planning in Michigan _____ **5**

Mission of the Delhi Township Master Plan _____ **6**

The Planning Process in Delhi Charter Township _____ **8**

Major Planning Documents _____ **8**

 Other Planning Documents: _____ **9**

Population Profile _____ **12**

Introduction _____ **12**

State of Michigan _____ **12**

Lansing Tri-County Area _____ **12**

Delhi Township _____ **14**

Age _____ **14**

Education _____ **16**

Race _____ **17**

Projections _____ **17**

 Tri-County Regional Planning Commission (TCRPC) Method _____ **17**

 Constant Proportion Method _____ **18**

 Building Permits Method _____ **18**

 Population and Housing Growth _____ **19**

Conclusion _____ **20**

Economic Profile _____ **22**

Introduction _____ **22**

Individual Characteristics _____ **22**

 Employment _____ **22**

 Income and Poverty Status _____ **23**

Economic Market _____ **23**

 Market Analysis _____ **23**

 Wholesale Trade _____ **24**

 Retail Trade _____ **24**

 Service Industry _____ **24**

Agriculture	24
Delhi Charter Township Downtown Development Authority (DDA)	25
Conclusion	25
Visions & Goals	25
<i>Housing Profile</i>	27
Introduction	27
Household Characteristics	27
Housing Type	27
Vacancy Rates	28
Value of Housing	28
Growth Trends	29
Household Density	29
Conclusion	30
Visions & Goals	30
<i>Land Use Profile</i>	32
Introduction	32
Existing Land Use and Zoning	32
Delhi Township Build-out Report	35
Assessment Process	35
Population Projections	36
Build-out for existing Future Land Use	37
Alternatives based on Build-out	39
Preferred Alternative	40
Conclusion	41
<i>Community Facilities</i>	42
Introduction	42
Township Land and Facilities	42
Community Services Center	42
Library	43
Public Maintenance Facility	43
Sanitary Sewer Service	43
Undeveloped Township-Owned Properties	43
Private Utilities	44
Recreational Facilities	44
New Holt High School Site	45
Public Infrastructure Boundary	46
Future Growth Study Area (Cedar Street Corridor)	46
Recreation Master Plan (Updated through 2002)	46

Public Safety	47
Police Protection	47
Fire Protection	47
Emergency and Rescue Services	48
Educational Facilities	48
Public Schools	48
Private Schools	50
Adult and Community Education	50
Vocational Schools	50
Post-Secondary Education	50
Transportation and Road Systems	51
Road System	51
Public Transportation	52
Health Care Facilities	52
Land Coverage	52
Conclusion	53
Visions & Goals	53
<i>Environment</i>	55
Introduction	55
Topography	55
Climate	55
Vegetation	56
Environmentally Sensitive Areas	56
Soils	56
Introduction	56
Soils Map	57
Observations	58
Important Farmlands	59
Conclusion	59
Water	59
Introduction	59
Watersheds	60
Groundwater	60
Wetlands	62
Flood Plains	62
Conclusion	64
Solid Waste Management	64
Introduction	64
Refuse Disposal	64
Recycling	64
Conclusion	65
Visions & Goals	66
<i>Future Land Use Patterns in Delhi Charter Township</i>	67
Planning Strategy	67

Planned Growth Areas _____	67
Regional Perspective _____	67
Economic Base Diversification _____	67
Environmental Preservation and Enhancement _____	68
Planning Areas _____	68
Residential Development Area _____	68
Primary Development Area _____	68
Secondary Development Area _____	69
Community Activity Center _____	69
Rural and Open Space Emphasis _____	70
Land Use Categories _____	70
Residential _____	70
Office/Commercial _____	70
Manufacturing/Warehousing _____	70
Community Activity Center _____	71
Parkland and Open Space _____	71
Community Facilities and Publicly Owned Land _____	71
<i>IMPLEMENTATION TOOLS _____</i>	<i>73</i>
Zoning Ordinance _____	73
Subdivision Regulations _____	74
Capital Improvements Program _____	74
Tri-County Regional Growth “Choices for our Future” _____	75
Township Services Boundary _____	75
Transitional Zoning _____	75
Wetlands Protection _____	76
Farmland Preservation _____	76
Commercial Design Standards _____	76
<i>Appendix A: Bibliography _____</i>	<i>77</i>
<i>Appendix B : Michigan Township Planning Act 168 of 1959 _____</i>	<i>78</i>
<i>Appendix C : Glossary of Terms Utilized in the Planning Process _____</i>	<i>88</i>
<i>Appendix D: Environmental Review Checklist _____</i>	<i>92</i>

LIST OF TABLES

<i>Table 1: State and Regional Population</i>	13
<i>Table 2: Metro Nine Township Area</i>	13
<i>Table 3: Population Characteristics</i>	14
<i>Table 4: Tri-County Regional Planning Commission Method</i>	18
<i>Table 5: Constant Proportion Method</i>	19
<i>Table 6: Building Permit Method</i>	19
<i>Table 7: Delhi Population and Housing by Census Tract</i>	20
<i>Table 8: Employment Comparison</i>	23
<i>Table 9: Housing Type</i>	28
<i>Table 10: Persons per Household</i>	30
<i>Table 11: Land Use Classifications</i>	33
<i>Table 12: Existing Land Use Acreage</i>	33
<i>Table 13: Township Zoning Acreage</i>	34
<i>Table 14: 2002 Land Use and Zoning District Comparison</i>	35
<i>Table 15: Tri-County Regional Planning Commission Method</i>	36
<i>Table 16: Constant Proportion Method</i>	36
<i>Table 17: Building Permit Method</i>	37
<i>Table 18: Existing Zoning</i>	38
<i>Table 19: Future Land Use</i>	39
<i>Table 20: Alternative 1 - Land Use</i>	40
<i>Table 21: Alternative 2 - Land Use</i>	40
<i>Table 22: Park Facilities within Delhi Township</i>	45
<i>Table 23: Holt Public School System Buildings within Delhi Township</i>	49
<i>Table 24: Post Secondary Institutions near Delhi Township</i>	50
<i>Table 25: Community Facility Area Breakdown</i>	52

LIST OF FIGURES

<i>Figure 1: Age Pyramid - 1980</i>	15
<i>Figure 2: Age Pyramid - 1990</i>	15
<i>Figure 3: Age Pyramid - 2000</i>	16
<i>Figure 4: Metro Nine Township Area School District Enrollment</i>	17

LIST OF MAPS

<i>Map 1: Tri-County Region</i>	<i>After page 4</i>
<i>Map 2: Ingham County</i>	<i>After page 4</i>
<i>Map 3: Census Tracts</i>	<i>After page 20</i>
<i>Map 4: Downtown Development Authority</i>	<i>After page 28</i>
<i>Map 5: Zoning Map</i>	<i>After page 42</i>
<i>Map 6: Existing Land Use</i>	<i>After page 42</i>
<i>Map 7: Alternative 1</i>	<i>After page 42</i>
<i>Map 8: Alternative 2:</i>	<i>After page 42</i>
<i>Map 9: Preferred Alternative</i>	<i>After page 42</i>
<i>Map 10: Community Facilities</i>	<i>After page 58</i>
<i>Map 11: Water-Sewer Locations</i>	<i>After page 58</i>
<i>Map 12: School Districts</i>	<i>After page 58</i>
<i>Map 13: Environmentally Sensitive Areas</i>	<i>After page 70</i>
<i>Map 14: Soils</i>	<i>After page 70</i>
<i>Map 15: Wetlands</i>	<i>After page 70</i>
<i>Map 16: Floodplain</i>	<i>After page 70</i>
<i>Map 17: Future Land Use</i>	<i>After page 74</i>

ACKNOWLEDGEMENTS

Many individuals devoted considerable time and effort toward the creation of the Year 2020 Master Plan. The contributions of Township Officials and residents were invaluable in helping to formulate this Plan. The Charter Township of Delhi is sincerely grateful to all the people who contributed to the process.

Board of Trustees of Delhi Charter Township

- Mr. Stuart Goodrich, Supervisor
- Mr. Harry R. Ammon, Treasurer
- Mr. Evan Hope, Clerk
- Mr. John Hayhoe, Trustee
- Ms. Terry Jenks, Trustee
- Mr. Jerry Ketchum, Trustee
- Mr. Paul Krepps, Trustee

Planning Commission of Delhi Charter Township

- Mr. Mike Goodall, Chair
- Ms. Chuck Grinnell, Vice-Chair
- Mr. Norm Hettinger, Secretary
- Ms. Harry Ammon, Trustee
- Mr. Gary Smith
- Mr. Kenneth O'Hara
- Mr. Donald Leaf
- Mr. Michael Keen
- Mr. Roger Donaldson

2000-2020 Master Plan Key Person Interviewees

- Mr. Tom Davis, Holt Schools Superintendent
- Mr. John Malatinsky, Holt School Board President
- Mr. Bob Scheuerman, Township Engineer
- Mr. Mike Miller, Stealth Engineering
- Mr. Tom Ziolkowski, Stafford-Smith
- Ms. Lynn Nyeholt, Nyeholt Steel
- Mr. Jim Bredin, Parks Commission
- Mr. Charlie Hill, Dart Manufacturing
- Mr. Al Granger, Granger Construction
- Mr. Roger Dean, DTN Enterprises
- Mr. Rich Greiner, Greiner Construction
- Mr. Dick Berry, Berry Construction
- Mr. Lynn Keep, Red Carpet Keim Real Estate
- Mr. John Elsinga, Township Manager

Delhi Charter Township Staff, Planning and Zoning Department

- Ms. Tracy L.C. Miller, Director of Community Development
- Mr. Peter Stoughton, Assistant Planner
- Ms. Dena Fitzgerald, Community Development Secretary
- Mr. Dennis Larner, Code Compliance Officer

A BRIEF INTRODUCTION

Delhi Charter Township is located in the south-central part of Michigan's Lower Peninsula in Ingham County. To the north, the Township directly borders the city of Lansing. It is considered part of the metro-Lansing area as well as a part of the Lansing Tri-County Area, which includes Ingham, Eaton and Clinton Counties. Delhi Township lies approximately halfway between the cities of Grand Rapids and Detroit, Michigan. Refer to **Map 1, Tri-County Region**, and **Map 2, Ingham County**, to locate Delhi Township in the Region and the County.

Before describing Delhi Township today and making plans for the future, it is important to take a brief look at the history of the area. The Township can be described as an urban bedroom community with a rural atmosphere, having grown out of an agricultural community founded in the mid-1840s.

The first white settlers in Delhi Charter Township, John Norris and Fred Luther moved into the area in 1836. One of the first school buildings was a log cabin structure built in 1840 on the site of the present Hope Middle School. On February 10, 1860, the post office at Delhi Center was renamed Holt after Joseph Holt, then the U.S. Postmaster General. Politically, the community remained Delhi Township as it is today. It was not until much later, after the schools also became known as Holt and the area began to take on a predominate suburban residential character, that Holt became a more common name than Delhi Township.

In the early years, Holt was a small community with most of its businesses related to farming. Later (1866), the Jackson, Lansing, and Saginaw (Michigan Central) Railroad came through town to provide the first mode of public transportation, other than stagecoaches, to the area. Passengers could embark at the station on Depot Street.

By the turn of the century the education and transportation facilities became more developed. Telephone service was also introduced. However, the area remained largely a corn farming community. In 1907, the interurban, an electric railway, was approved for construction to further connect Township residents with Lansing, Jackson, and on to Detroit. A yellow station was located at the west end of Keller Road.



A Brief Introduction

A suburban village south of the city of Lansing, Delhi Charter Township is the home to a large portion of the Tri-County Region's population and a center of cultural diversity, economic stamina, and vast acreage of farmland and open space.

After World War I, the area began the process of becoming more urbanized. In 1923, both electricity and a fire department were established in the Township. During the Great Depression the urbanization trend was put on hold as people in Delhi Township returned to simple, self-sustaining means like gardening. By the late 1950s, the Township was modernizing with public water, public sewer, and expanded educational facilities, police and fire services. Delhi became a chartered Township on September 18, 1961. Modernization and expansion have transformed Delhi Township from a rural farming community into the lively suburb it is today.

BACKGROUND & PERSPECTIVE

This document is the Master Plan (MP) for Delhi Charter Township, Michigan. This document is written in three sections: (1) Profiles, (2) Future Land Use Plan, and (3) Implementation Tools.

The Profile section is broken into the demographic and physical characteristics of the Township. These sections include population, economic, housing, environment, and community facilities. At the end of these profile sections is a Goals and Objectives category. This category illustrates the objectives to be performed by Township officials to successfully complete the goals identified by the Township residents. These goals and objectives are specific to the Profile section it is included in.

The second section of this document is the Future Land Use Plan. This section analyzes the proposed Future Land Use Map, how it was derived and how it will change the Township’s growth patterns.

Implementation Tools demonstrates the different tools that will be utilized throughout the process and how they will affect the shaping of Delhi’s growth. These tools include the Zoning Ordinance, Subdivision Regulation, and Commercial Design Standards.

Township Land Use Planning in Michigan

The Delhi Charter Township Planning Commission is established under the authority of Public Act 285 which states:

The Planning Commission shall make and adopt a master plan for the physical development of the municipality.

The plan, with the accompanying maps, plats, charts, and descriptive matter will show the following:

1. The Commission’s recommendation for the development of the territory, including, among other things, the general location, character, and extent of streets, viaducts, subways, bridges, waterways, flood plains, water fronts, boulevards, parkways, playgrounds and open spaces.



Background and Perspective

To understand the Planning Process is to understand the community’s past, present, and future. To accurately plan for the future, the Township must understand where it has been, where it presently is, and how those elements affect future growth.

2. The general location and extent of public buildings and other public property, and the general location and extent of public utilities and terminals, whether publicly or privately owned for water, light, sanitation, transportation, communication, power and abandonment.

Mission of the Delhi Township Master Plan

Delhi Charter Township is located in the northwestern corner of Ingham County and is experiencing residential growth pressure. This pressure is due to the availability of vacant land; the availability of sewer and water service within a limited geographic area; the attractiveness of the rural environment; and the access to the Regional transportation system.

The three predominate land uses in Delhi Township are active agricultural land use (31%), residential land comprising approximately twenty six percent (26%) and non-active agricultural use representing fifteen percent (15%) of the total land area. A complete list of land uses categories and associated acreage are listed in **Table 11, Land Use Classifications**, and **Table 12, Existing Land Use Acreage**, in the Land Use Profile.

The 2000 Census revealed that the 2000 population was 22,569--an 18 percent growth rate over the past decade. This percentage is substantially above the Tri-County Region increase of 3 percent for the same time period.

Delhi Township is predominately an owner-occupied housing market with 77.7 percent of the housing stock as owner type housing. From 1990 to 2000, Delhi Township added 1,374 dwelling units. This represents a nineteen- percent growth rate for that time period, well above the growth rate for the County.

Because significant lands continue to be converted to residential use, Delhi Charter Township desires to establish a development policy, which clearly and concisely outlines the location and level of recommended growth. Toward that end, the Delhi Charter Township Planning Commission has prepared a set of Visions and Goals to be incorporated into the Master Plan. These Visions and Goals are established for the Economic Profile, Housing Profile, Environment, and Community Facilities.

The Planning Commission has the following overall Mission Statement for the Comprehensive Plan:

It is the Mission of the Delhi Charter Township Planning Commission to create an environmentally and fiscally responsible pattern of land use. The Commission's focus shall be the stabilization, enhancement, and development of quality residential neighborhoods and for appropriately planned non-residential land uses (commercial, industrial, wholesale, retail, recreational, and open space). The Planning Commission shall provide for a mix of land use sufficient for funding public services, stability of the community and for protection of environmentally sensitive areas. The mission shall be accomplished through the adoption of a Master Plan, recommending ordinances and ordinance revisions to the Township Board, recommending zoning changes and special use permits to the Township Board, and approving or denying site plans, all in accordance with state laws and Township ordinances. The Master Plan shall establish a framework for responsible land use decision-making through adoption of Visions and Goals. The Commission

shall implement the Goals by adopting, and periodically reviewing, specific measurable and achievable, results-oriented and time-bound objectives.

These policy recommendations are contained within suggested geographic areas for future land use, which delineate locations for geographic areas of residential development, primary development, secondary development, community activity center, and rural development character.

The policy recommendations also outline a very specific agenda for action by both the Township Planning Commission and the Board of Trustees concerning proposed research, regulations, projects, programs, and coordination activities which are directed at creating a more precise land use policy for Delhi Charter Township which will evolve over the next several years.

THE PLANNING PROCESS IN DELHI CHARTER TOWNSHIP

This section describes recent land use planning activities within Delhi Charter Township. It is intended as a historical perspective which can provide a framework for understanding the land use planning process within the Township and assist in formulating recommendations for future studies, land use regulation decisions, new land use regulations, and Master Plans. A brief review of major planning documents follows.

Major Planning Documents

Master Plan 1967: Prepared by Tri-County Regional Planning Commission, this document was the first in-depth planning effort by Delhi Charter Township. The Township Planning Commission worked with the Tri-County Regional Planning Staff to set forth broad community goals, objectives, and standards to guide physical growth. The plan portrayed major land use relationships to be preserved or established along with general requirements for community facilities and services. A major focus of this first planning effort was the recommendation of a land use pattern, which would prevent urban sprawl and encourage development in efficient service units.

Master Plan 1976: Prepared by Parkins Rogers & Associates, this document was the first update to the 1967 plan and set forth planning goals through the year 1990. The plan was quite comprehensive and included goals, policies and objectives for the categories of residential, commercial, office, industrial, community design and image, public facilities, open space, agriculture and environmental quality. The plan continued to suggest a concentrated residential development area in the northeast corner of the Township, (through Sections 13,14 and 15) while predicting a continuation of population growth. It identified a concern with the quality of the existing housing stock and suggested taking measures to promote more upscale housing developments within the Township. It also identified the need for a new Township hall and library facility during the life of the plan. The plan encouraged the preservation of agricultural activity in the southern part of the Township due to natural limitations on development and also proposed the incorporation of cluster development to preserve open space. The plan supported continued commercial and industrial development along major arterials with appropriate consideration of



The Planning Process

The Planning Process allows for all elements of a community to take part in the growth and planning of their community. Delhi Charter Township uses this approach so that the citizens have options in deciding their community's future.

compatibility with surrounding neighborhoods and adequate infrastructure.

Development Plan: Delhi Charter Township 1990: Prepared by Township staff, this planning effort represented an update from the 1976 document and was a reaction to the substantial residential growth which the Township experienced between 1970 and 1990. This plan also recognized that agricultural land use in the southern part of the Township should be preserved for agricultural or open space uses. It did, however, state that in certain areas agricultural zoning was a "holding category" until such time as infrastructure was available. This plan also recognized the importance of commercial development to the Township in terms of supporting the economic base. It identified the "Triangle" area as a focal point of non-residential land use and recognized the creation of the Town Center Zoning District as an effective implementation tool. This plan also supported the activities of the Delhi Charter Township Downtown Development Authority to promote new industrial development.

Master Plan: Delhi Charter Township 1998 - Prepared by the Township staff and Associated Governmental Service, this was an update of the 1990 Development Plan. This document was a basic inventory and analysis of the Township and its challenges for the new century. The outcome of this update was a series of Goals, Policies, and Objectives and Future Land Use Patterns to be followed. These Goals, Policies, and Objectives covered a series of issues including residential, commercial, and industrial development, the Community Activity Center, Community Facilities, transportation, and environmental goals.

Master Plan: Delhi Charter Township 2002 – 2020 – Prepared by the Township staff and HNTB Michigan, Inc., this is a review and amendment to the 1998 Master Plan. This review became necessary because of several planning issues that were not fully anticipated by the 1998 Plan, including:

1. The new Holt High School Site, which was unanticipated by the 1998 MP;
2. The Cedar Street corridor, for which a re-engineering study is currently in progress;
3. Utility expansion due to the new school site;
4. And release of 2000 Census data.

Other Planning Documents:

Section 2 Sub Area Plan 1995 - The Delhi Charter Township Planning Commission adopted a Sub Area Plan (Smaller Geographic Planning Area) in 1995, which proposed a non-residential land use pattern for that area southwest of the Jolly Road - Pine Tree Road intersection. That plan proposes commercial uses on the Jolly Road frontage, office/warehouse/research uses on the interior of the study area, and appropriate public improvements to support development. That recommended land use plan is available in the Future Land Use Patterns portion of this document.

South Cedar Street Corridor Plan 1995: Undertaken by the Downtown Development Authority in 1994-95, this planning activity had the objective of clarifying a future land use pattern for the frontage properties on the South Cedar Street Corridor and recommending a zoning district pattern to implement the plan. This effort has been successful in guiding new development along the Corridor and assisting the Planning Commission in rezoning the numerous M-1/M-2 Industrial Districts to less intensive zoning categories. An additional part of this

planning effort was an Access Management Study, which made numerous recommendations for limiting vehicular access to the Corridor as well as improving safety and efficiency. The recommended land use patterns are also available in the Future Land Use Patterns of this document.

Downtown Development Authority Holloway Plan 1995: Also undertaken by the Downtown Development Authority, this document presented a future land use vision for the so-called Holloway Property (South of Holt Road and East of South Cedar Street). Proposed as a planned unit development, this plan recommended recreational, commercial, residential, and manufacturing land uses, which would be designed as entity and maximizing the unique physical features of the site. Adopted by the Planning Commission in 1995 as an official part of the Master Plan for Delhi Charter Township. This plan is also available for review in the Future Land Use Patterns of this document.

Delhi Charter Township Sanitary Sewer Master Plan 1996: An update to the 1981 Sewer Master Plan prepared by Wolverine Engineers & Surveyor's, Inc. This updated plan documents the state of the existing sanitary sewer system and provides estimates of sanitary sewer needs over the next twenty years associated with anticipated population and economic expansion. As part of the update, previous hand drawn maps were digitized onto computers. Since the 1981 Master Plan, the Delhi Waste Water Treatment Plant (WWTP) was expanded and upgraded. Among other things, its capacity was increased to 2.5 million gallons per day (mgd) from a previous level of 2.0 mgd. A 1996 study projects that by the year 2016, the Township will need a capacity of 4.05 mgd to meet growing residential, commercial and industrial needs. The Sewer Master Plan identifies long range sewer service areas and serves as a general guide for the associated infrastructure expansion. The Sewer Master Plan also provides a prioritized list of pumping stations most in need of replacement or upgrading.

Recreation Master Plan 1996-2001: Known as a "five year plan" and required by the M.D.N.R. for grant funding eligibility, the Recreation Master Plan was drafted with the assistance of the Parks and Recreation Department at Michigan State University. It includes an exhaustive inventory of existing parks and recreation facilities in the Township along with community profiles and budget information. Drawing all of the information together, a "five-year" plan is created with goals, policies and actions. The year-by-year outline of action includes estimated project costs and funding sources. Neighborhood parks are a specific plan priority. This plan has been recently updated through 2002 to address the changing trends of the Township. It will continue to be updated as necessary. Additional information on the Recreation can be found in the Community Facilities section of this document.

Downtown Development Plan: As a result of the Downtown Development Authority Act (P.A. 197 of 1975), Delhi Township established the Downtown Development Authority (DDA). The DDA is a legal organization with the responsibility of planning economic development and determining the allocation of resources required to implement its objectives. The Downtown Development Plan defines the physical location of the development district and serves as the Development Plan and the Tax Increment Financing Plan. With an overall goal of increasing the tax base of Delhi Charter Township Development Authority's District while maintaining Delhi's desirability as a place to live, it includes eleven specific objectives as well. The plan addresses downtown revitalization, commercial and industrial development, infrastructure needs and recreation for the public. Other areas of interest include transportation corridors, residential areas and environmental issues. An implementation strategy within the document identifies specific projects, anticipated project costs and a time frame for implementation.

Sidewalk Master Plan: The Sidewalk Master Plan was written by Gove & Associates in 1985 and updated in 2000 for Delhi Charter Township. It includes an inventory of the sidewalk system, which was in existence at the time--detailing not only location but condition as well. The plan provides a system through which to prioritize sidewalk projects and develops both short and long term goals for sidewalk development in general terms and a specific list of twelve short-term projects. A five-year time line for the first twelve projects and cost estimates are provided as well. Finally, the plan addresses the issue of funding sidewalk projects.

POPULATION PROFILE

Introduction

The Population Profile compares Delhi Township with the surrounding Tri-County Region and the State of Michigan for overall population, age, race, and education. By understanding the characteristics of the population of Delhi Township in relation to the larger community, it is possible to make observations about the community as well as predictions for the future.

State of Michigan

From 1970 to 2000, Michigan gained 1,056,564 residents for an overall total population of 9,938,444. From 1970 to 1990, there was a growth of 614,700 persons in the State, but for the last decade alone there has been an increase of over 441,000 persons. This is over two-thirds of the previous 20 years. It is an indication that the growth rates for the State as a whole are increasing (See **Table 1, State and Regional Population**).

Lansing Tri-County Area

During the period 1990-2000, the Lansing Tri-County Area experienced a population increase of three percent, which is lower than both the State (6.9%) and National (13.2%) rates for the same time period. Population statistics for the Tri-County Area showed approximately 432,674 people in 1990-rising slightly over the following decade to 447,728. Growth for the area has continued since 1940 but at a significantly slower rate since 1980 (See **Table 1**).



Population Profile

Delhi Charter Township has a diverse population, which ranges from the youngest child to the elderly. The Township promotes housing and activities which cater to all age ranges.

TABLE 1
State and Regional Population
1990 - 2000

	1990	2000	Percent Change
Delhi Township	19,190	22,569	18%
Ingham County	281,912	287,353	2%
Tri-County Region	432,674	447,728	3%
State of Michigan	9,295,297	9,938,444	6.9%

Although growth has slightly increased across the Region, it has not been consistent. In the Region's largest cities (Lansing and East Lansing) population has decreased the past 30 years. The population in Lansing and East Lansing has decreased by nine percent and three percent respectively. It is apparent that most residents have not left the Region, but have relocated in and around within the Region. Communities with direct proximity to Lansing and East Lansing have been growing at a more rapidly. The city of DeWitt and Townships of Meridian, Delta, and Delhi have grown at rates of better than 60 percent. This growth is an indication of an outward growth movement from the large cities into the suburbs and rural lands. **Table 2, Metro Nine Township Area**, illustrates this growth trend.

TABLE 2
Metro Nine Township Area
1970 - 2000

	1970	2000	Percent Change
Alaiedon Township	2,487	3,498	41%
Bath Township	4,832	7,541	56%
City of DeWitt	1,829	4,702	157%
City of East Lansing	47,964	46,525	-3%
City of Lansing	130,211	119,128	-9%
Delhi Township	13,795	22,569	64%
Delta Township	17,396	29,682	71%
DeWitt Township	9,909	12,143	23%
Meridian Township	23,817	39,116	64%
Watertown Township	3,146	4,162	32%
Windsor Township	3,513	7,340	109%

Source: U.S. Census Bureau

Delhi Township

The 2000 U.S. Census population for Delhi Township was 22,569 persons. This represents a net gain of 17.6 percent in population during the past decade. This growth, as shown in **Table 1**, represents a faster growth rate than either Ingham County or the Tri-County Region as a whole. A more significant gain occurred in Delhi Township between 1970 and 1980, which was a 24.3 percent increase over the Township's 1970 population of 13,795 persons. This growth pattern demonstrates that Delhi continues to be a strong growth area within the Tri-County Region.

Delhi Township is the fourth largest local jurisdiction in population size within Ingham County, following the cities of Lansing and East Lansing and Meridian Township, and the fifth largest in the Tri-County Region. **Table 3, Population Characteristics**, shows the change in several of the larger local units of government in the Region and the net growth rate for each.

TABLE 3
Population Characteristics
1990 - 2000

	Percent Change	Net Change
Bath Township	18%	1,154
Bellevue Township	7%	206
City of Charlotte	4%	306
Delhi Township	18%	3,379
Delta Township	14%	3,553
City of DeWitt	19%	738
DeWitt Township	16%	1,695
City of East Lansing	-8%	(4,152)
City of Grand Ledge	3%	234
City of Lansing	-6%	(8,193)
City of Mason	-1%	(54)
Meridian Township	10%	3,472

Source: U.S. Census Bureau

Using the following twelve selected governmental units, Delhi Township ranked third in actual net gain in population and fourth in growth rate. It should be noted that the twelve units were selected because of significantly high growth rates or being among the larger in population within the Region.

Age

A review of the age of persons in the community shows that 29.9 percent of Delhi's population is under age eighteen. The average for Ingham County was only 25.4 percent and the Region 24.8 percent. The number of youths in the Township under eighteen (18) has continued to increase at a slower rate in the County and Region largely as a result of the declining number of persons per household and family size.

In 1990, the Township had 8.1 percent of the population over 65 years old and by 2000 this percentage had grown to 9.6 percent. This trend has been typical for the Township for the past thirty years. The older portion of the population has been growing at a faster rate. Delhi is typical of the statewide trend since 1970 where the number of persons over 65 years of age and their percentage of the total population has increased. **Figure 1, Age Pyramid 1980, Figure 2, Age Pyramid 1990, and Figure 3, Age Pyramid 2000** illustrate this trend.

FIGURE 1

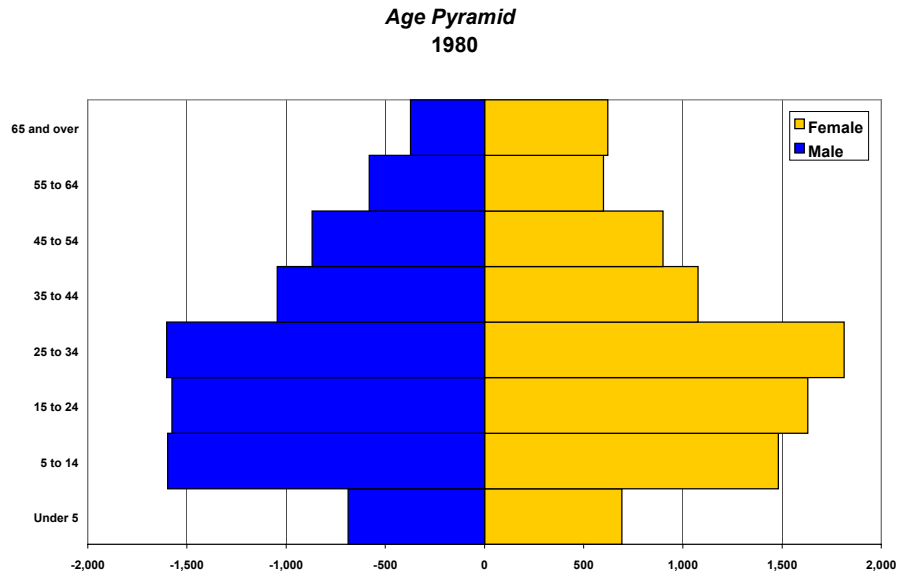


FIGURE 2

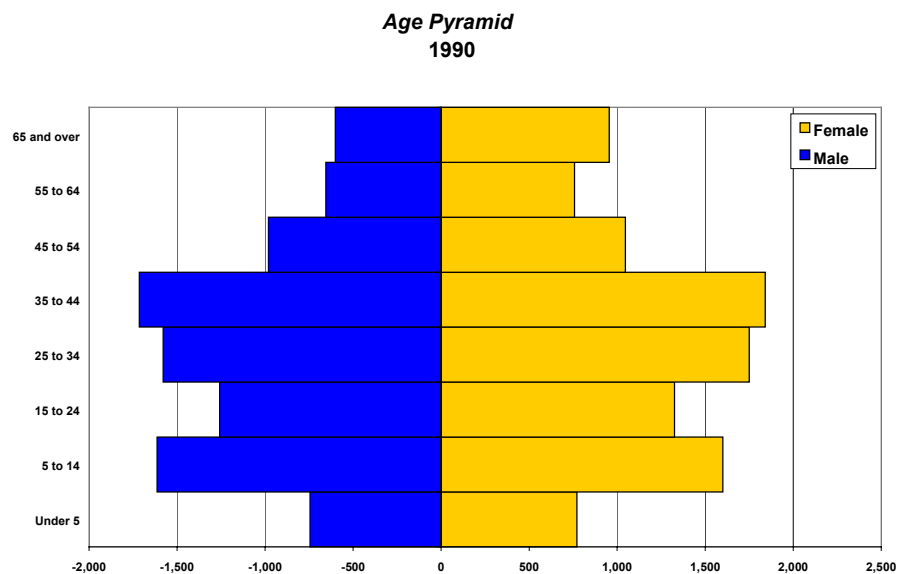
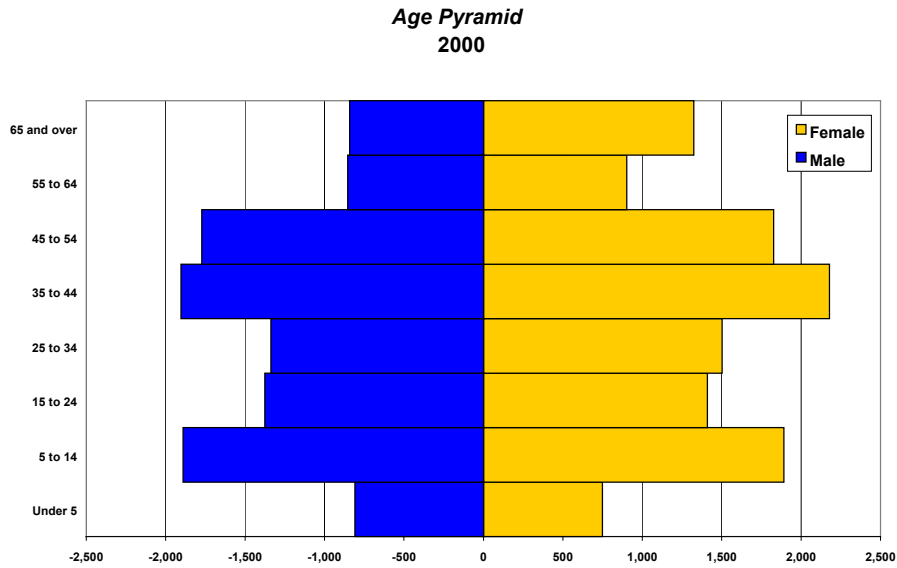


FIGURE 3



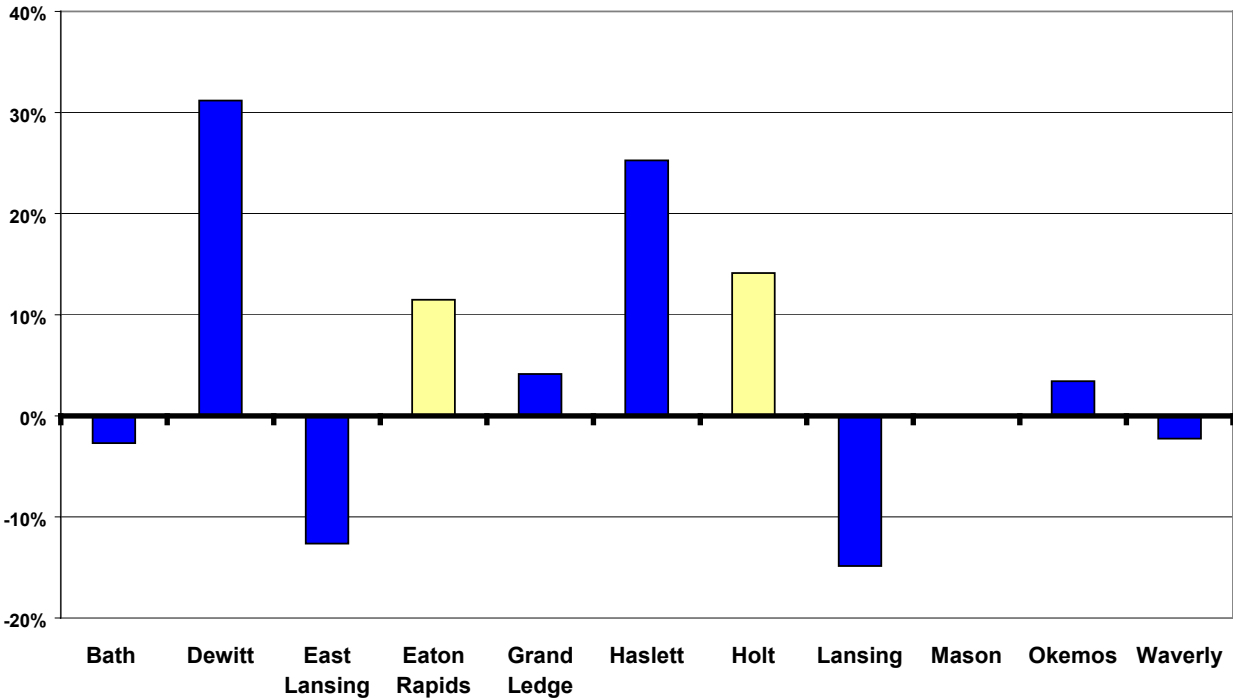
Education

There have been significant changes in the levels of education of residents in Delhi since 1970. In 1970, 36.5 percent of Delhi's residents over 25 years of age had no high school diploma and only 4.4 percent had a college degree. In 1990, 86.4 percent of the population over 25 years had at least a high school diploma and 19.4 percent held a college bachelors degree or higher. In 1990, Ingham County reported a lower percentage of persons with high school diplomas (83.9%) than Delhi Township, but a greater percentage of people who hold a college bachelor's degree (29.9%). At the time of this proposed plan, the 2000 census data was not available for this information.

Delhi Township is serviced by three public school districts. Holt School District services the majority of the student population, but the southern portion of the Township is included inside of the Mason School District and a small portion on the west side is included within the Eaton Rapids School District. Enrollment for all three districts has increased in the past decade, with Holt leading the group. Holt School District's growth of 14.1 percent is one of the highest in the Tri-County Region. **Figure 4, Metro Nine Township School District Enrollment**, shows the student growth trends for all local school districts.

FIGURE 4

**Metro Nine Township Area School District Enrollment
1991 - 2000**



Race

The racial composition of the Township is overwhelmingly Caucasian with only 2.4 percent being Black and 2.4 percent being of Hispanic origin. The Township has maintained approximately the same divisions for the past thirty years. The County and Region have both experienced a steady growth in the numbers of minority persons since 1970. The County in 2000 reported a 10.9 percent Black and 5.8 percent Hispanic population, compared to 9.9 percent and 4.2 percent respectively in 1990.

Projections

For this Profile section, the population and household projections have been performed in three different ways.

Tri-County Regional Planning Commission (TCRPC) Method

For the Tri-County Regional Growth Project, TCRPC contracted an outside agency to formulate a system of calculating the growth forecasts for the Region as a whole. This method of projection was broken down to the jurisdictional level. The population counts for 2020 are based on these numbers.

Constant Proportion Method

This method is based on the trends of percent population change. Based on the population trends from 1940 to 2000, Delhi Township is growing at a rate of 11 percent every 5 years. This percentage was then multiplied in to the 2000 population count to produce a number of new residents. These projected new residents were added to the 2000 population to produce the 2005 projection. This process was then repeated up to 2020.

Building Permits Method

The building permit method is based on the development trends of the Township. The trend of new development in the community is researched to determine an average of new housing units over a given amount of time. The average persons per household are then multiplied by number of new housing units. The number produced is the number of new residents that will be introduced into the community for that time span. This process is then repeated until the desired time frame is reached.

Tables 4, Tri-County Regional Planning Commission Method, Table 5, Constant Proportion Method, and Table 6, Building Permit Method, represent population projections for Delhi Township using the three methods described above. The TCRPC method, **Table 4**, shows the slowest growth. According to TCRPC, by 2020 there will be 26,462 residents in Delhi Township and 10,394 households. This is a 17 percent increase over the next 20 years.

The Constant Proportion Method, **Table 5**, shows that a population of 34,261 residents would occupy the Township by 2020. A 51 percent increase in population would result in a 56 percent increase in households, or over 6,500 additional housing units. The population trends method generates the highest population projection for Delhi Township.

The Building Permit method, **Table 6**, shows a 27 percent increase in population and a 32 percent increase in households. Using this method, Delhi Township will have 28,853 residents and will need 6,284 new housing units by 2020.

TABLE 4
Population Projection Through 2020
Delhi Township
Tri-County Regional Planning Commission Method

	2000	2005	2010	2015	2020
Population	22,569	24,678	25,250	25,732	26,462
Households	8,563	9,331	9,725	10,005	10,394
Persons Per Household	2.64	2.64	2.60	2.57	2.55

Source: Tri-County Regional Planning Commission

TABLE 5

**Population Projection Through 2020
Delhi Township
Constant Proportion Method**

	2000	2005	2010	2015	2020
Population	22,569	25,052	27,807	30,866	34,261
Households	8,563	9,489	10,695	12,010	13,436
Persons Per Household	2.64	2.64	2.60	2.57	2.55

Source: HNTB

TABLE 6

**Population Projection Through 2020
Delhi Township
Building Permit Method**

	2000	2005	2010	2015	2020
Population	22,569	24,423	25,841	27,311	28,853
Households	8,563	9,251	9,939	10,627	11,315
Persons Per Household	2.64	2.64	2.60	2.57	2.55

Source: HNTB

Population and Housing Growth

Map 3, Census Tract Map, shows census tract areas. **Table 7, Delhi Population and Housing by Census Tract**, summarizes Delhi Township census information from 1970-2000 by census tract. According to this information all areas of Delhi Township have grown consistently over the past decade with the exception of Tract 54, which lies as downtown Holt. This Tract has experienced significant losses in both dicennial censuses since 1980. However, all other segments of the township have been growing at rates ranging from 443 percent to 68 percent. An analysis of housing units illustrates the strong housing market within the Township. All census tracts have increased their housing stock, even Tract 54, which had the declining population. The trend for Delhi Township, much like the rest of the Region, is to expand into the outlying agricultural community where land is more abundant.

TABLE 7

DELHI POPULATION AND HOUSING BY CENSUS TRACT (1970-2000)

Census Tracts	51	52.02	53.02	53.04	54	55.01	55.02
2000 Population	619	3321	2193	174	7374	4684	4559
Housing Units	228	1212	618	949	3266	1863	1710
1990 Population	159	1383	1743	66	7701	3824	4314
Housing Units	64	526	638	25	3084	1391	1461
1980 Population	128	1159	1702	55	10097	4008	*
Housing Units	42	477	552	15	3794	1333	*
1970 Population	156	972	1353	32	6980	4302	*
Housing Units	42	334	367	9	2207	1269	*

*Note: Census Tracts were split during each census by the U.S. Census Bureau period in order to maintain tracts that are equitable in populations. Tract 55 was split into 55.01 and 55.02 for the 1990 Census, so the total would compare to the 1980 and 1970 land area and population size.

Conclusion

Suburban growth has been a trend throughout the Region, State, and Nation for the past two decades. Population growth trends show an exodus from the inner cities and tremendous growth in the outlying suburbs and rural areas. The Tri-County Region and Delhi Township are no exception. Based on the trends exhibited by the Region, Lansing and East Lansing populations are decreasing and the outlying Townships and villages are growing at increasingly rapid rates.

The increase of population puts pressure on rural communities and urbanizing ones as well with regard to the environment, services, quality development and other needs. If these trends continue, Delhi Township will become a more important part in the growth of the Region. The services that the Township provides to residents will become an increasingly important issue. Environmental concerns, expansion of employment and business, and provision of services will be a great challenge for Delhi Township.

Population Visions and Goals

Vision – The population of Delhi Township will grow from 22,569 in 2000 to between 26,000 and 34,000 in 2020. About 1/3 of the population will be greater than 55 years of age. Residents will be well educated and racial diversity will be increasing.

Goal 1 – Delhi Charter Township Planning Commission will neither encourage nor discourage population growth, but will strive to direct growth in areas where infrastructure will support the population.

Goal 2 – Delhi Charter Township Planning Commission will encourage developments and site plans to meet the needs of an aging and more diverse population.

Goal 3 - Delhi Charter Township Planning Commission shall plan orderly development of non-residential uses to meet the demands of its residents.

ECONOMIC PROFILE

Introduction

The Economic Profile looks at Delhi Township from two different perspectives. First, it looks at the direct relationship of the local economy to the individual characteristics of the Township's residents and the ability of the households to function within the market. Second, it looks at the business sector of retail, wholesale and service industries and the Township's position within the Region or state economic market. The economic market reflects the numbers and sales that are attributed to the business conducted within the Township. The individual economic characteristics result from the earnings and economic features that are accrued from outside as well as inside the Township. A survey of the economic condition of the Township helps to anticipate the direction and location of future growth within the community. The Township's economy directly affects the population size and infrastructure needs and has a ripple effect.

Individual Characteristics

In 2000, Delhi Charter Township had a total population of 16,055 persons over the age of 18. The unemployment rate was at 1.5 percent--well below the reported rates for the County (2.6 percent), the State of Michigan (6.6 percent) and the Region (2.5 percent).

Employment

Table 8, Employment Comparison, shows that employment has increased steadily and at a higher rate than population from 1970-2000, but slowed dramatically from 1990-2000. Family and household median income fell steadily from 1970 to 1980 and rose during 1980 to 1990 - returning to a point close to the 1970 rates in each category. All of the following statistical categories have increased steadily from 1970-2000.

The top four (4) employers in the Township are Holt Public Schools which employs 583 people, Regional Steel Distribution Center (RSDC) of Michigan, L.L.C. employs 292 people, Davenport Masonry has 280 people and Granger Construction has 250 employees.



Economic Profile

Delhi Charter Township provides for a mixed community of industrial and commercial opportunities. From the selection of commercial nodes in the community to the growing industrial park, Delhi Charter Township provides a thriving economic base for its citizens.

TABLE 8
Employment Comparison
Delhi Township
1970-2000

	Delhi Township		Lansing		Ingham County	
	Employees	Percent Change	Employees	Percent Change	Employees	Percent Change
1970	5,625	***	150,600	***	106,250	***
1980	7,950	41.33%	188,900	25.43%	123,975	16.68%
1990	10,250	28.93%	218,000	15.40%	140,800	13.57%
2000	11,050	7.80%	241,800	10.92%	151,675	7.72%

Source: Michigan Economic Development Commission

Income and Poverty Status

The median Township household income was at \$36,030 in 1990. Ingham County's median household income was \$30,162 for the same period and the Region as a whole was slightly above the Ingham County level. The non-family median income was only \$19,850.

The poverty level of Township residents over eighteen years old stood at 5.9 percent in 1990. Slightly over twelve percent of seniors (65 years of age and over) had incomes below the poverty level. Of the female-headed families, 24.6 percent were below the poverty level. In the County, sixteen percent of all persons were below poverty level. Also, the poverty rate for female headed families (34.7%) was higher than the Township level. At the time of the drafting of this plan, the 2000 census data was not available for this section.

Economic Market

The economic market is divided into three primary trade areas for evaluating economic progress or status. These trade areas are wholesale trade, retail trade and service industry. The category of agriculture has been added here as well. Much of the economic information and data sources available is given for the Lansing-Tri-County Region and is undistinguishable from the Township as a separate entity. The 1992 Economic Census provided the first breakout of detailed economic indicators for the Township. It therefore becomes the base year for an economic analysis. Information is presented as a status and no attempt is made to provide an historical trend analysis. Overall, the Township and the Lansing area economic picture has been stable and generally above Regional and state averages.

Market Analysis

Delhi Township has shown significant increases in its economic development opportunities through the past two decades. In this time period, the commercial and industrial districts within the Township have grown to support the rapid residential growth rates. It is essential that these elements of the Township grow to meet the retail and non-retail needs to ensure that Delhi Township does not become a “Bedroom Community”.

Two areas in particular have grown to meet these needs. The Cedar Street corridor, site of a future growth study, is one of these areas. Deemed as the commercial center of the Township, this corridor has grown to support nearly all of the retail demand of the Township. Though the growth in this corridor has been inconsistent, it is the location where the Township has identified as its town center.

The other area of economic growth is the Delhi Technology Park. Located on the eastern portion of the Township, this industrial park is home to the largest employers in Delhi. This park is one of the fastest growing industrial areas in the Region and is near build-out status.

Wholesale Trade

In 1992, wholesale trade in Delhi Township consisted of 27 wholesale establishments and 385 employees. Recorded sales recorded totaled \$176,884,000 and the payroll amount was a total of \$10,411,000. Delhi Township has approximately 6 percent of the wholesale business market in Ingham County. The Township was ranked 73rd in the state out of 230 local jurisdictions. The manufacturing and production industries are included in this sector.

Retail Trade

There were 56 retail establishments in the Township and 746 employees within the retail trade area. Delhi accounted for about 3.2 percent of the County's total retail establishments and employees. In the 1992 report, Payroll amounted to \$7,437,000 in retail and \$63,842,000 in sales. The Township was ranked 176 in the state out of 225 local jurisdictions for volume of sales. The County was seventh of the 83 counties in Michigan.

Service Industry

The service industry is the fastest growing industry of the three trades. This is the sector that includes government and education. Delhi has approximately 111 service establishments and 549 employees in this sector. The Township represents approximately 5.5 percent of the County's total establishments and number of persons employed. The sales at \$10,849,000 represent about 2.2 percent of the County's total payroll and 2.8 percent of the sales of services. The service industry can be expected to grow in line with the rest of the state.

Agriculture

In 1996, it was estimated that Delhi Township had 2,790 acres (approximately 12.2 percent) of land that was actively being farmed. The County reported 44.3 percent of total land use as cropland or 168,026 acres of active farmland. Today, Delhi Township, contains less than 2 percent of the agricultural land in Ingham County. Economic data on agriculture compiled by the USDA for Ingham County shows that in 1992, the agriculture industry reported an income of \$74,534,000. Ingham County ranked 27th out of Michigan's 83 Counties in number of farms, and with one exception ranked in the top twenty in all reported production categories. Nevertheless, from 1982-1992 the average number of farms decreased 24 percent and the acres of land being farmed decreased 13 percent in Ingham County. This trend can be expected to continue in the future resulting in a parallel decrease in farm revenue.

Delhi Charter Township Downtown Development Authority (DDA)

An additional force in the economic market in Delhi Township is the Downtown Development Authority (DDA). The Township Board of Trustees established the DDA on July 21, 1987, pursuant to Michigan Public Act 197 of 1975 and local ordinance 80. **Map 4, Downtown Development Authority**, illustrates the location of the DDA.

The primary purpose for creating the DDA lies in the promotion of economic growth through business promotion and retention programs and the halting of deteriorating property values within the central business district. The DDA strives to increase the Township's tax base in the DDA District while maintaining those qualities that make Delhi Township a desirable place to live.

The DDA has engaged in such projects as new infrastructure in areas where growth was desired, improved infrastructure in established areas, streetscapes, rehabilitation of commercial properties, land planning, street and road improvements, regional and national marketing programs and acquisition and recycling of distressed properties. Specific examples include the redevelopment project at the southwest corner of Cedar Street and Holt Road, the commercial façade loan program and the RSDC new manufacturing facility.

The DDA is an essential element in the growth and success of Delhi Township as a destination spot for the Region. Through its work and acquisition of funds the DDA provides opportunities for local and chain businesses to co-exist and thrive.

Conclusion

Several observations can be made about Delhi's economic market. The size of the total workforce has remained almost constant over the past five years while the unemployment rate has continued to decline. This raises the issue of whether businesses will be able to find qualified employees. Business expansion and population growth will likely continue in the future. Delhi Township reports 6 percent of the wholesale business market, 3.2 percent of the retail trade and 5.5 percent of the service industry within Ingham County. Considering that Delhi Township contains less than 6 percent of the County's land area, these numbers can be viewed as proportionate. With a growing population and an active DDA, analysis suggests that these economic percentages will continue to rise until the Township reaches build-out. It is expected that as the Township becomes built-out north of the Public Infrastructure Boundary, the agriculture industry in those areas will continue to decline in terms of land area and economic impact. However, south of that boundary agricultural uses are expected to continue with little or no adverse affects.

Economic Visions and Goals

Vision

The Delhi Charter Township Planning Commission shall encourage the stabilization and enhancement of commercial and industrial areas sufficient to provide adequate services to residents and an appropriate share of revenue to support required Township services.

Goal 1

The Delhi Charter Township Planning Commission shall generally support the implementation of supplemental plans as may be developed, and periodically amended, for various parts of the Township by other Township boards or commissions. These plans may include, but are not necessarily limited to, corridor studies conducted by the Downtown Development Authority and the Parks and Recreation master plan.

Goal 2

Delhi Charter Township shall encourage the Downtown Development Authority to pursue an economic development strategy, which prioritizes retention and enhancement of existing businesses as well as recruitment of new business.

Goal 3

Existing non-conforming uses shall be appropriately regulated to provide elimination and/or stabilization where necessary and enhancement/expansion where appropriate.

Goal 4

The Delhi Charter Township Master Plan shall identify and provide for the needs for community and regional nonresidential services sufficient to meet the needs of township residents.

HOUSING PROFILE

Introduction

The housing profile describes characteristics of the housing stock located in Delhi Township. This chapter also discusses the type, value, and development trends that have taken place in the housing market.

Household Characteristics

In 2000, the total number of households in Delhi Township was 8,563 or 6.8 percent of Ingham County. In the category of female-headed households, the Township rate (11.9 percent) is lower than that of the County (12.1 percent). Also, Township statistics show that families comprise 73.2 percent of the total households, exceeding Ingham County's 58.7 percent. The household size in Delhi has decreased over time (2.61 persons/household) but its rate is still higher than the County's 2.42 persons per household.

Housing Type

Although Delhi Township has housing units of all types to offer residents, the majority is made up of single family dwelling units (See **Table 9, Housing Type**, below). The total number of housing units in the Township is 8,563. Single-family dwellings account for 6,111 units or 71.4 percent of the total. Mobile homes were included in this category and according to the 1990 Census, they accounted for 14.1 percent of the total housing stock at 1,204 units. Two to four-family dwellings make up 5.3 percent, totaling 452 units. The remaining 9.3 percent of housing units are multiple-family dwellings (795 units). As a result of this distribution, Delhi Township is considered a single family residential development community.



Housing Profile

In a suburban community, such as Delhi Charter Township, numerous housing options must be present to support all walks of life. The Township provides these options to suit all needs and situations.

TABLE 9
Housing Type
1970-2000

Housing Type	1970	1980	1990	2000
Total	4,209	6,213	7,189	8,563
1 Family Units	3,478	4,929	5,903	7,316
2-4 Family Units	352	429	519	452
Multiple Family Units	379	855	767	795

Vacancy Rates

Historically, the vacancy rates in Delhi have been extremely low. The 2000 Census reported that 6,656 dwellings units (77.7 percent) were owner occupied and 1,907 units (22.3 percent) were renter occupied. The balance--425 housing units or 4.7 percent-- was vacant. In 2000, the vacancy rate for the Township was less than 2.0 percent for owner occupied housing and 6.0 percent for rental units. The overall vacancy rate for Delhi was 4.7 percent. This suggests that Delhi has maintained a very tight housing market. Existing housing turns over rapidly and with the increasing population rates, new housing is being sold early in the construction process. Census Tract 54 is the old development core of the Township and is the most densely developed. It is in an urban setting and has traditionally had the highest amount of rental housing in the Township (see **Table 7** and **Map 3** in Population Section).

Delhi Township's housing market shows more rural characteristics when compared to the County and Tri-County Region. Delhi represents 7.4 percent of Ingham County's housing stock of 115,056 units. At the County level, only 60.8 percent of the dwellings are owner occupied and the combined vacancy rate is 5.6 percent. The lower amount of owner occupied housing units is characteristic for central cities like Lansing and East Lansing where rental housing is generally higher. Comparatively in the Tri-County Region, both Clinton and Eaton Counties, which are largely rural, show 83.0 percent and 74.2 percent respectively for ownership of the total housing stock. Vacancy rates are similar in all three counties with Ingham being slightly higher.

Low vacancy rates can be linked to many different factors including population stability. In Delhi Township, 53.4 percent of the residents indicated they were in the same house since 1985 or earlier. The main shifts and moves appear to be by new residents entering the Township as the housing market expands. Of those residing in a different home, 5,733 were from inside the State of Michigan.

Value of Housing

Delhi Township's housing market compares well with the County in terms of economic value for both owner occupied units and rental rates. In 1990, the median value of owner occupied housing in the Township was \$70,600, while the County averaged \$61,800. The Township's median rent was \$348 per month compared to the County's \$374 per month. At the time of this proposed plan the 2000 census data was not available.

Two other loosely linked indicators of a healthy economy, which appear in Census housing data, are the number of available vehicles. Only 2.8 percent of the occupied housing units in Delhi

reported not having an available vehicle. Yet, sixty-five percent had two or more vehicles at their disposal. Sixty percent of all housing units in the Township have three or four bedrooms.

With a growing residential base, the Township's State Equalized Value (SEV) value has been increasing. In 1990, the SEV was \$252,176,950 and by 2000, had increased to \$408,206,450. This 61.9 percent increase proved to be higher than that of the County and the Region, whose rates were 52.7 percent and 55.3 percent respectively.

Growth Trends

The Township has also experienced an increase in the number of housing units, which parallels the increase in population. Twenty-nine (29) percent of the housing was built prior to 1950. This means that the remaining 71 percent were built over the past forty-five years. The largest decade of development for new housing was the 1970s when 2,144 new homes or twenty-six percent (26%) of the Township's housing stock was built. Also supporting the growth in housing units has been the availability of public services. Seventy-five percent of the homes have public water and commercial gas for heating and an even higher percent are accessible to public sewer. Greater detail for this can be found in the Community Facilities section of this plan.

Based upon building permit data, Delhi Township has been acquiring on average almost 700 new housing units every five years. Eighty-three percent of these new housing units have been single family units. This has been the dominant form of development in the Township in the last twenty years. The benefit of this influx is the increase in the price of housing. In 1980, the average cost of a new unit in the Township was just over \$40,000, in 1999 that dollar figure was up to \$104,000. This is \$10,000 better than the County, but slightly less than the Region.

As part of the overall increase in the housing stock, mobile homes are significant as a housing style alternative to conventional construction of homes. Prior to 1970, the Township experienced a 41.6 percent growth in the number of mobile homes in the community. This growth occurred in mobile home parks or park developments with only a small number of mobile homes being placed on individual lots.

Household Density

When examining the housing profile for Delhi Township, it is important to note what is happening within the housing units as well as what is happening with the units themselves. The number of persons per rented unit has steadily decreased in a fashion similar to the decline in the number of persons per household discussed as part of the population profile. **Table 10, Persons per Household**, illustrates an overall decrease in the number of persons per housing unit between 1970 (3.13) and 1980 (2.63), but a slight increase in 1990 (2.72). By the 2000 census, the average persons per household was back down to 2.61. Also, between 1980 and 1990, the number of persons in owner type housing units increased slightly, while for renters it continued to decrease. As the persons per housing unit decreases, the number of housing units needed to house the population increases even when the population size stays constant. With a growing population, this places an even greater pressure on the housing market for expansion.

TABLE 10**Persons per Household****1970-2000**

	1970	1980	1990	2000
Overall	3.13	2.63	2.72	2.61
Owner	3.32	2.75	2.83	2.76
Renter	2.66	2.44	2.38	2.09

Conclusion

When examining the overall housing profile, Delhi appears to be a secure and growing area. Delhi Township has a substantial amount of single-family residential units and a large percentage of home ownership. This creates a challenge for the Township. Since there is a limited variety in housing, Delhi Township provides limited opportunity for some segments of its population. This is a situation that has been noticed and is being addressed by the Township.

The vacancy rates are generally low and the cost of housing appears reasonable. Newer housing is upscale and attracting new residents from other parts of the State and Country. New parcels are being created each year and new units are being constructed on them--both of which continue to increase in value. The number of persons per occupied unit has stabilized over the past twenty years, increasing slightly in the "owner" category and decreasing slightly for "renters" but it remains much lower than figures for 1970.

All of these factors suggest that Delhi Township will continue to experience new residential construction of all housing types in the next twenty years. This will increase the community's density, which, in a traditional development pattern, can create a more urban feel to the Township. It will also affect the demand on community facilities, services and infrastructure.

Housing Visions and GoalsVision

To create and maintain quality residential neighborhoods and promote a sense of community for Delhi Charter Township

Goal 1

The Delhi Charter Township Planning Commission shall use the Master Plan as the policy to establish consistent land use patterns and density guidelines for development of the township.

Goal 2

Maintain a predominantly residential community with a reliance on single family detached housing.

Goal 3

Opportunity for alternative housing styles and densities may be evaluated for appropriate locations based upon the principle of Land Use Transition.

Goal 4

The Delhi Charter Township Planning Commission shall promote residential design features which emphasize the physical connection and linkage of residential neighborhoods where reasonable and practical.

Goal 5

Promote the Planned Unit Development Process to protect unique environmental features in residential areas.

Goal 6

The Delhi Charter Township Planning Commission shall enhance the township's sense-of-community by, among other things, emphasizing walkable neighborhoods, public gathering areas, and access to the township's natural attributes when reviewing residential development proposals.

LAND USE PROFILE

Introduction

The fundamental goal of the completed Delhi Charter Township Master Plan will be to guide future growth and development of the community. To accomplish this goal it is important to have an accurate picture of what the Township looks like today. The maps and analysis found in this chapter help create that image. After this image is created a build-out scenario is performed and development alternatives produced. It is from these scenarios that the future land use map is established.

Existing Land Use and Zoning

To create a land use analysis and alternatives several factors are taken into consideration. First, an analysis of the existing conditions must be performed. For this project an existing land use map was created and land use was calculated. This map is based upon data from the State of Michigan and was refined in 2000 by the Tri-County Regional Planning Commission. In **Table 11, Land Use Classifications, and Table 12, Existing Land Use Acreage**, the existing land use classifications are explained and the acreage and Township percentages of each land use are presented. The next step is to compare the land use figures to the Township Zoning Map (**Map 5, Zoning Map, and Table 13, Township Zoning Acreage**) and how the relevant acreage and percentages correlate with the land uses. This correlation is illustrated in **Table 14, 2002 Land Use and Zoning District Comparison**. From this data, the developable land can be selected and based on zoning densities a build-out report can be produced. The following section details this report.



Land Use Profile

As the Township and the Regions grows, the land use in the community must change to meet future needs. Delhi Charter Township must change to meet the demands of its current citizens and those of future residents.

TABLE 11
Land Use Classifications
2002

Land Use Classifications	Description
Active Agricultural	Cropland
Non-Active Agricultural	Pasture, Confined Feeding, Shrubland, Herbaceous Openland
Residential	Single Family, Duplexes
Multiple Family Residential	Medium and High Density Residential
Commercial/Office	Primary and Secondary Business Districts, Shopping Centers
Manufacturing/Industrial	Industrial, Industrial Parks
Mobile Home Residential	Mobile Home Parks
Governmental/Institutional	Governmental, Institutional, Educational
Recreational	Outdoor Recreation
Open Space	Forested Lands, Wetlands

TABLE 12
Existing Land Use Acreage
2002

Land Use Type	Acreage	% of Total
Active Agricultural	5,565	30.7%
Non-Active Agricultural	2,639	14.6%
Residential	4,628	25.5%
Multiple Family Residential	306	1.7%
Commercial/Office	420	2.3%
Manufacturing/Industrial	218	1.2%
Mobile Home Residential	201	1.1%
Governmental/Institutional	182	1.0%
Recreational	350	1.9%
Open Space	3,612	19.9%
Total	18,180	100.0%

TABLE 13
Township Zoning Acreage
2002

Existing Zoning	Total Land	% of Total
R-1A One Family Rural Residential	219	1.2%
R-1B One Family Low Density Residential	929	5.1%
R-1C One Family Medium Density Residential	2,395	13.2%
R-1D One and Two Family High Density Residential	736	4.0%
R-1E One Family High Density Residential	150	0.8%
RM Multiple Family Residential	514	2.8%
C-1 Low Impact Commercial	84	0.5%
C-2 General Business	478	2.6%
C-3 Highway Service	180	1.0%
C-4 Planned Shopping	27	0.1%
TC Town Center	15	0.1%
Condominium	N.A.	
IW Industrial Warehouse	117	0.6%
IR Industrial Research	5	0.0%
IA Industrial Assembly	88	0.5%
IM Industrial Manufacturing	111	0.6%
IP Industrial Park	456	2.5%
A-1 Agricultural	11,676	64.2%
Total	18,180	100.0%

TABLE 14
2002 Land Use and Zoning District
Acreage Comparison
-in acres-

	Land Use	Zoning
Active Agriculture	5,565	***
Non-Active Agriculture	2,639	***
Total Agriculture	8,204	11,676
Single Family Residential	4,628	4,429
Multiple Family Residential	306	514
Commercial	420	1,294
Manufacturing	218	4,806

Delhi Township Build-out Report

This document presents a build-out assessment for Delhi Township, Michigan. The purpose of the assessment is to examine the housing unit density provisions of the zoning ordinance and the 1998 future land use plan. As part of the comprehensive plan update process, two alternative future land use scenarios were developed to examine the effect of proposed changes to the comprehensive plan goals and objectives.

The assessment compares the impact on Township land development between each land use plan when development has been allowed to reach its maximum potential (i.e., “build-out” state).

This assessment utilizes a traditional urban planning approach for analysis, including inventorying available geographic information from various sources, soliciting suggestions and concerns from Township officials, planning commission, community forum participants, determining possible future impacts of present land use regulations, and making recommendations for changes to policies to reduce negative consequences of those impacts.

Assessment Process

The build-out assessment employed an eight-step process that entailed:

- 1) Conducting an inventory of existing baseline geographic information for Delhi Township from various sources. Information on demographic trends, land use development trends, natural resources, as well as zoning ordinances and land use plans of the Township, was gathered and assessed.
- 2) Soliciting comments from Township officials and from the public through two forums where demographic trends and alternative land use plans were presented.
- 3) Designating certain lands as unsuitable for development so as to preserve areas high in natural resource or cultural value.

- 4) Mapping water and sewer lines in the Township and designating water and sewer service areas.
- 5) Overlaying the maps of land categories designated as developed and unsuitable for development and “subtracting” the geographic areas associated with these categories from the land use plan maps.
- 6) Determining the number of acres and calculating the number of allowable housing units in the zoning districts and land use plan categories associated with the land areas remaining. The number of housing units allowed is based on the density stipulations of the zoning ordinance.
- 7) Calculating the residential build-out for the year 2020 based on U.S. Census projections of population and households and comparing the results with population projections based on building permits and from Tri-County Planning Commission
- 8) Assessing the results and analyzing their possible impacts on the Townships future development, economic health and quality of life.

Population Projections

Based upon the assessment process, it is necessary to understand the population trends and project them into the future. The following are the population projections for Delhi Township through the year 2020, also found in the Population Profile. **Table 15, Tri-County Regional Planning Commission Method**, is data from the Tri-County Regional Planning Commission. **Table 16, Constant Proportion Method**, which is calculated from U.S. Census Bureau data. **Table 17, Building Permit Method**, is calculated from Township building permit data.

TABLE 15

**Population Projection Through 2020
Delhi Township
Tri-County Regional Planning Commission Method**

	2000	2005	2010	2015	2020
Population	22,569	24,678	25,250	25,732	26,462
Households	8,563	9,331	9,725	10,005	10,394
Persons Per Household	2.64	2.64	2.60	2.57	2.55

Source: Tri-County Regional Planning Commission

TABLE 16

**Population Projection Through 2020
Delhi Township
Constant Proportion Method**

	2000	2005	2010	2015	2020
Population	22,569	25,052	27,807	30,866	34,261
Households	8,563	9,489	10,695	12,010	13,436
Persons Per Household	2.64	2.64	2.60	2.57	2.55

Source: HNTB

TABLE 17
Population Projection Through 2020
Delhi Township
Building Permit Method

	2000	2005	2010	2015	2020
Population	22,569	24,423	25,841	27,311	28,853
Households	8,563	9,251	9,939	10,627	11,315
Persons Per Household	2.64	2.64	2.60	2.57	2.55

Source: HNTB

Build-out for existing Future Land Use

Below in **Table 18, Existing Zoning**, the existing zoning for the Township is analyzed. The total land for each zoning category is separated into developed land and available land. From this portion of vacant land, twenty percent is subtracted for transportation use. Once a final acreage has been reached, it is then multiplied by the density designated in the zoning ordinance. From this equation, a number of new units able to be developed are produced. This is the information that **Table 18** illustrates for each zoning classification.

TABLE 18**Existing Zoning**

	Density per Acre	Total Land	Wetland	Developed Land	Available Land	Transportation 20%	Available Land	Number of Units
R-1A One Family Rural Residential	1.09	219	5	129	85	17	68	74
R-1B One Family Low Density Residential	2.90	929	1	706	222	44	178	516
R-1C One Family Medium Density Residential	4.36	2395	40	1317	1038	208	830	3617
R-1D One and Two Family High Density Residential	6.60	736	0	661	75	15	60	396
R-1E One Family High Density Residential	6.60	150	4	26	120	24	96	634
RM Multiple Family Residential	6.00	514	11	329	174	35	139	1204
C-1 Low Impact Commercial	8.71	84	1	19	64	13	51	446
C-2 General Business	4.36	478	26	284	168	34	134	585
C-3 Highway Service	4.36	180	11	83	86	17	69	300
TC Town Center	8.71	15	0	9	6	1	5	42
Condominium	3.80					0	0	0
Industrial Warehouse	0.50	117	0	84	33	7	26	13
Industrial Research	0.50	5	0	2	3	1	2	1
Industrial Assembly	0.50	88	0	76	12	2	10	5
Industrial Manufacturing	0.50	111	11	75	25	5	20	10
Industrial Park	0.03	456	19	182	255	51	204	7
A-1 Agricultural	1.09	11676	248	2,724	8,704	1741	6963	7583

Table 19, Future Land Use, demonstrates the same process for the future land use information.

TABLE 19

Future Land Use

	Minimum lot size	Density per Acre	Total Land	Wetland	Developed Land	Available Land	Transportation 20%	Available Land	Number of Units
Rural Residential	40000	1.09	5835	102	1144	4589	918	3671	4002
Low Density Residential	15000	2.90	3104	36	1100	1968	394	1574	4566
Medium Density Residential	10000	4.36	4119	57	1866	2196	439	1757	7660
One and Two Family High Density Residential	6600	8.00	1007	23	599	385	77	308	2464
Office	5000	8.71	472	28	148	296	59	237	2063
Commercial	10000	4.36	768	58	362	348	70	278	1214
Industrial	87120	0.50	532	19	222	291	58	233	116

Alternatives based on Build-out

Map 7, Alternative 1, and **Map 8, Alternative 2**, are the two alternatives that were produced based upon the build-out information. **Table 20, Alternative 1 – Land Use**, and **Table 21, Alternative 2 – Land Use**, show the differences between Alternatives 1 and 2. The housing unit capacity estimates far exceed the 2020 projected need based upon the population projections, but it is essential to understand the effect of build-out on the alternatives.

TABLE 20

Alternative 1 – Land Use

	Density per Acre	Total Land	Wetland	Developed Land	Available Land	Transportation 20%	Adjusted Available Land	Number of Units
Rural Residential	1.09	5558	103	945	4510	902	3608	3929
Low Density Residential	2.90	2929	24	626	2279	456	1823	5295
Medium Density Residential	4.36	4458	69	2430	1959	392	1567	6827
One and Two Family High Density Residential	8.00	1250	9	717	524	105	419	3354
Office	8.71	419	17	215	187	37	150	1303
Commercial	4.36	675	48	365	262	52	210	914
Industrial	0.50	548	22	356	170	34	136	68

TABLE 21

Alternative 2 – Land use

	Density per Acre	Total Land	Wetland	Developed Land	Available Land	Transportation 20%	Adjusted Available Land	Number of Units
Rural Residential	1.09	5558	103	940	4515	903	3612	3933
Low Density Residential	2.90	2929	24	1082	1823	365	1458	4235
Medium Density Residential	4.36	4458	69	1953	2436	487	1949	8489
One and Two Family High Density Residential	8.00	1250	9	936	305	61	244	1952
Office	8.71	419	17	203	199	40	159	1387
Commercial	4.36	675	48	204	423	85	338	1475
Industrial	0.50	548	22	323	203	41	162	81

Preferred Alternative

Through the public involvement process, a preferred alternative was selected to become the new future land use map. After minor revisions, the final map, **Map 9, Preferred Alternative**, looks as follows.

Conclusion

The comparative analysis between land use and zoning district classifications allows us to evaluate Township land use patterns from a different perspective. The Delhi Township Zoning Map provides a planned outline of how land can best be utilized throughout the Township taking into account such things as natural features and resources, infrastructure and existing development. Analysis may also give perspective on the need to change the Future Land Use Map to accommodate growth pressures and to change the zoning ordinance to more strictly guide development patterns within established zoning districts.

Many areas of the Township are zoned inconsistently with the actual use of the land. While the commercial zoning and land uses seem to be rather indistinguishable, low-density residential development is scattered throughout the Township in areas zoned A-1 Agricultural. Similarly, planned mobile home residential developments are locating in areas zoned as Multiple Family. Although allowed by the zoning ordinance, the result is that areas zoned for very high-density residential development are not being used as such. Areas with adequate infrastructure and other resources, which are able to support high-density residential development, are limited and therefore must be carefully preserved.

Another issue, which becomes clear through this analysis, is that the current zoning ordinance does not distinguish undeveloped land from other land uses. Most of the undeveloped land in the Township is zoned as A-1 Agricultural, which seems to serve as a blanket zoning classification type in many portions of the Township. It is through this analysis and the build-out scenario that the Township must decide a course of action for the inevitable development of these vacant lands. Since a majority of these lands are zoned A-1, low-density sprawl will potentially consume the Township's agricultural land.

It is for this reason that the Township has decided to implement a public infrastructure boundary in the southern portion of the community. This boundary will limit the extension of public services to only the northern side. Any development that takes place on the southern side of this boundary will be without public infrastructure. This boundary can be seen on the Future Land Use Map.

This boundary has been implemented to encourage the growth and redevelopment of the existing urban areas of the Township. Additionally, the boundary will help preserve and protect the prime agricultural farmlands that are located within the Township.

COMMUNITY FACILITIES

Introduction

Community facilities are public services and service systems which serve Delhi Township's 22,569 residents. They include parks, police and fire protection services, schools, libraries, wastewater treatment and the Township's administrative offices. Delhi's community facilities are inventoried and described in both narrative form and through a map. **Map 10, Community Facilities Map**, illustrates all of the community facilities and their locations within the Township.

An inventory of existing community facilities is important in creating a long-range community plan. Only by knowing what the community has to work with, is it possible to plan for the future. As a charter Township, Delhi is responsible for providing a wide range of services. Also, community services enhance the quality of life for area residents. Good land use planning considers community facilities because they affect public health and safety, environmental health, and the economic stability of the community.

Township Land and Facilities

Community Services Center

In the fall of 1996, a new Community Services Center was built in Delhi Charter Township at 2074 N. Aurelius Road. The new facility replaced the old Township hall, which was built in the 1950s. The Center houses the Township's administrative departments including Accounting, Assessing, Community Development, Clerk, Parks and Recreation, Engineering/Public Services, Office of the Manager/Supervisor, Office of the Treasurer and a 110 seat public meeting room. In addition, it contains the Delhi Branch of the Ingham County Sheriff's Department, the Township's Fire Station 1 and the Holt Public Library which is the Delhi branch of the Capital Area District Library (CADL). The facility is situated on 10.17 acres of land, contains 43,340.03 square feet of floor area and cost \$4.4 million to construct. A new community service center park is being developed on 5.9 acres adjacent to the Community Services Center.



Community Facilities

Large scale communities must provide certain services to sustain safety and quality of life. These services range from police and fire to public libraries and schools. Delhi Charter Township provides many of these services to its citizens, and those its provides are maintained and expanded as necessary.

Library

In addition to the libraries located in each of the district school buildings, Delhi Township is also served by the Capital Area District Library (CADL) now located in the Community Services Center described above. The new facility currently occupies 4875 square feet of floor space and has room to expand. As of January 1, 1998, the library's hours were expanded to 50 hours per week.

The library has a rather extensive collection of videos, periodicals, and books. It is also linked with several other libraries in the Region through an interlibrary loan service, which further expands its available resources. To more efficiently meet the needs of the Township, the entire library collection is accessible through a computerized catalogue system with several terminals available for public use. The CADL also offers photocopy services. In addition, the library sponsors several programs and events including a summer reading program for children, coloring contests, visits by theater groups, and free movies in the summer months.

Public Maintenance Facility

The Delhi Township Public Maintenance Facility is located at 1492 N. Aurelius Road and provides a wide range of maintenance services to the Township. Personnel duties include all maintenance for Township-owned properties; from buildings to cemeteries to lift stations. Also, maintenance facility staff provides minor maintenance on the fleet of Township vehicles.

Sanitary Sewer Service

A vast majority of the homes and businesses in Delhi Township are served by public sewer. Out of the 8,563 housing units surveyed in the 2000 census, approximately 85% reported public sewer service. Homes outside of the existing sewer service district are serviced by private, on-site sewage disposal systems. The Township owns and operates one wastewater treatment facility at 5961 McCue Road. It is currently under expansion to increase its capacity and to comply with increasing water quality standards at both the State and Federal levels. The Township also maintains thirteen sewer lift stations. General information on each is available in the appendix section. **Map 11, Water-Sewer Locations**, shows existing sewer lines and anticipated expansions.

Delhi Township's Sanitary Sewer Master Plan (1996), addressing both sewer development and use, was developed and adopted to insure that the demand is met. This plan was created using the latest technology in computer mapping so that it can be constantly updated to reflect new development. Also, whenever a subdivision or other type of development is proposed which will increase the demand for sewer use, a site plan must be submitted to the Township's Community Development Department. As part of the review process, Township engineers evaluate whether the sewer demand of the proposed project can be accommodated.

Undeveloped Township-Owned Properties

Delhi Charter Township also holds the deed to two properties totaling 109.09 acres on the northeast corner of Holt and Eifert Roads. Presently, there are plans to utilize this property for future expansion of the parks system.

Private Utilities

Utilities are an instrument for growth in Delhi. The availability of water, electricity, telephone and other utilities is a primary factor in determining the desirability of Delhi Township as a place to live and work. With the exception of sanitary sewer addressed previously, all utility services in the Township are under the authority of other agencies.

Public water has been provided by the Lansing Board of Water and Light since 1972. Of households surveyed in the 1990 census, almost 75% of housing units--or 3 in 4--reported public water service. An outline of the existing water service area is provided on the sewer map at the end of this chapter. In the long run, water service extensions are expected to parallel sewer service areas.

Other utility services are provided as follows. Phone service to the vast majority of Township residents is provided by Ameritech. Natural gas and electricity utility demands are met by Consumer's Energy and the Board of Water and Light. Cable television service is available in much of the Township.

In order to offer utility services to Delhi Township residents, each of the previously mentioned utility providers own property in Delhi Township. They are mapped on the Community Facility Maps. They are typically parcels being used for things such as construction offices, cable tower head sites, or power substations. They may also be properties, which have been purchased for future uses such as municipal well sites (see "Water" section). In addition to property ownership, many utility companies have obtained easements on properties. Easements are not indicated on the maps.

Recreational Facilities

Within the boundaries of the Township there are a number of park facilities that provide open and recreational space. In fact parks are such an important part of the Township that the budget for Delhi Parks and Recreation is the second largest item on the Township budget. With a few exceptions, most of the parks in the Township are owned and operated by Delhi's Parks and Recreation Department. Specifically, the Township is responsible for Kiwanis, Valhalla, Jaycee, Deadman's Hill, Sycamore Park, and the Sam Corey Senior Citizens Center. Together these facilities provide tennis courts, playgrounds, swimming areas, fishing areas, pavilions, and nature and fitness trails and baseball fields for public use. Recreation facilities are shown on **Map 17, Future Land Use**, located at the end of the section addressing Future Land Use Patterns.

In total, Delhi Charter Township has 190 acres of park land in its municipal parks system. This includes the two parcels of land at the northeast corner of Holt and Eifert Roads. All of the Township park land is concentrated around downtown Holt in sections 14, 15, 22 and 23. Table 22 provides a summary of the facilities which five of the parks have to offer residents. Sycamore Park is a 1/4 acre park which provides a pedestrian circulation route from the adjacent subdivisions to Sycamore Street. The Senior Citizen's Park has a building facility with a patio as well as shuffleboard, horseshoe pits and a woodlot.

In addition to the Township parks, Delhi is also home to Burchfield Park and the Riverbend Nature Trail, both located in Section 31, which are owned and operated by the Ingham County Parks Department. During the winter months, existing County facilities offer ski trails and equipment rental, sledding, a toboggan run and rental, a warming house and ice-skating. In the

summer, these two parks offer nature trails, grills, swimming and fishing areas, playground equipment, and boat and mountain bike rentals. Other private recreational facilities available within the Township are the El Dorado Golf Course, Chisholm Hills Golf Course, Iron Links Golf Course, a private campground and Spartan Speedway. There is also a small privately owned downtown pocket park located on the corner of Holt Road and Cedar Street. Altogether, Delhi Township's recreation areas total 893 acres.

TABLE 22

PARK FACILITIES WITHIN DELHI TOWNSHIP

	Burchfield	Valhalla	Jaycee	Kiwanis	Deadman’s Hill
Boating	X				
Concessions	X	X			
Fishing	X	X			
Fitness Trail		X			
Ice-Skating	X	X			X
Nature Trail	X	X			
Pavilions	X	X		X	X
Playground	X	X	X	X	X
Swimming	X	X			
Cross-country Skiing	X				
Tennis Courts				X	
Toboggan Run	X				

New Holt High School Site

The Holt Public School District purchased an agricultural parcel for the site of the new Holt High School. This purchase was after the completion of the 1998 Master Plan update and may cause a shift in growth patterns. The public participation process initiated as part of the 2001-02 MP update has reviewed the impact of the new high school’s location, and appropriate changes to the future land use patterns are reflected in **Map 17, Future Land Use**.

Public Infrastructure Boundary

This growth mechanism is designed to limit growth in areas designated for open space and agricultural preservation. Essentially this is a boundary that indicates a limit for public infrastructure. Any development that is constructed on the agricultural side of the boundary will be responsible for installing wells and septic fields, which are compatible with the Ingham County standards. Based on the new future land use plan outlined in this Plan, the Public Infrastructure Boundary will roughly run along Harper Road in the southern portion of the County.

Future Growth Study Area (Cedar Street Corridor)

Based on commercial growth needs, the Township has indicated the Cedar Street Corridor as a future growth study area. The recommendations of the Cedar Street Corridor Plan were incorporated in the Master Plan and the Future Land Use Map. The area between Cedar Street and the railroad tracks in the Cedar Street Corridor has been designated as a Planned Development (PD) land use area. The large amounts of vacant parcels give an opportunity to develop the land in a PD that will encourage a mix of uses such as industrial, warehousing, commercial, retail and residential. The design of the PD must incorporate adequate buffering between incompatible uses as well as access management. In addition, control must be addressed to prevent any negative impact on the environment.

Recreation Master Plan (Updated through 2002)

The finalized Delhi Township Recreation Master Plan (1996-2001), having been approved by the State of Michigan, serves two purposes. First, it will ensure those recreational demands for parklands, facilities and programs are met within the Township as it continues to grow. Second, a recreation master plan allows the Township to obtain grant funding from the State of Michigan. The 5-year plan was created through a combination of efforts from Township officials, residents, school district personnel and the department of Parks and Recreation at Michigan State University. Because it is itself a planning document, the Township planning commission should take it into account when reviewing residential development proposals.

The function of a recreation master plan is similar to that of a Master Plan. It summarizes previous recreation plans and objectives and gives background information on the entire Township. It includes a complete explanation of the structure of the Delhi Parks and Recreation Commission as well as its budget and responsibilities. It offers an outline of the process used to create the recreation master plan, which explains its necessity and justifies the plan as a public document.

The community profile section includes a description of the Township's character, topography, soils, vegetation and wildlife, demographics, public school and park facilities. It also includes a complete inventory and description of the parks within Delhi Township. Finally, the document draws all of the information together and creates the actual five-year plan of goals, policies, and actions. The five-year plan section of the Recreation Master Plan includes an outline of estimated project costs and revenue sources. The Recreation Priorities List is included in the appendix of this document.

Delhi's Parks Plan utilizes tables, maps and graphs in order to provide a complete picture of existing and desired future facilities. It also contains the National Recreation and Parks Association (NRPA) Standards and applies them to the Township, numerically demonstrating how Delhi measures up to each recommendation.

In addition to its extensive inventory, the plan contains several goals and an action plan for 1996-2001 including anticipated funding sources. One primary goal identified in the Recreation Master Plan is the development of one neighborhood park each year. The comparison with NRPA standards in this area suggested a need for at least 13 more neighborhood parks based on population concentrations and existing facilities. The plan also outlines improvements at both Dead Man's Hill and Valhalla Parks to facilities and infrastructure. Other goals include the addition of more soccer fields in the Township and a passive trail system adjoining the new Community Services Center. The plan also calls for the creation of a separate master plan for the forty-acre parcel near the corner of Holt and Eifert Roads within the next five years. It is expected that a new plan will be written for 2002-2007 after additional surveys are done to further evaluate community recreation needs, facility use and participant satisfaction with existing programming.

Public Safety

Police Protection

Police protection is provided in Delhi through a contract with the Ingham County Sheriff. The Township has opted for this arrangement because it provides Delhi with more police resources and support services than if the Township had its own police department. The Delhi Division of the Ingham County Sheriff Department is located in the new Community Services Center.

The police department in Delhi provides 24 hour 911 service to area residents. The police department has a total of eight cruisers--six marked and two unmarked--to patrol the Township. During both the day and night shifts there are always five deputies and one sheriff on duty. In addition, the police department employs two detectives, a lieutenant (who oversees all actions), a community police officer, and an officer who is responsible for community policing and the Drug and Alcohol Resistance Education (D.A.R.E.) program. On average, the department is able to respond to emergency calls within the Township in three to four minutes.

Fire Protection

The Delhi Charter Township Fire Department has two locations in the Township. Fire Hall 1 is in the Community Services Center and Fire Hall 2 is located in Section 7 on the corner of Bishop and Gilbert Roads. The Fire Department also provides service to the adjacent Alaieton Township. The Township fire department consists of a full-time Chief and Secretary, a part-time Inspector and approximately 50 on-call, paid personnel who carry pagers. They are paid on a "per-call" basis. The Township has chosen this volunteer system because it provides excellent fire protection at a fraction of the cost of a full-time department.

The fire department is equipped with a number of emergency vehicles. The department owns over 12 pieces of vehicular equipment including four pumper trucks, one ladder truck, one air generator/light truck and two grass rigs. A nine-siren emergency system and a tanker truck have recently been purchased. The number of calls the department receives varies from week to week. However, in 1995 overall the department responded to over 1000 calls, in 1996 the number

exceeded 1200 and in 1997 there were 1279. Delhi is connected with the 911 emergency response system, but the department is not equipped with a computer system to provide directions to each location within the Township. The average response time to fires within Delhi Township is approximately six minutes.

Emergency and Rescue Services

The Delhi Fire Department also provides the Township with three ambulances to meet the needs of Township citizens that are also linked to the 911 emergency system. As of July 1, 1997, the ambulance is covered 24-hours a day by part-time paid personnel. The average response time for ambulance calls is about three minutes.

Educational Facilities

Public Schools

Delhi Township is served by four school districts: Holt, Mason, Lansing and Eaton Rapids. Holt Public Schools serve a majority of the Township's population as well as the Village of Dimondale. It covers the largest physical area of the Township and serves the areas with the highest population concentrations. The district is the only one with facilities in the Township. The Mason School District includes the southeast corner of the Township (Sections 25, 26, 33, 34, 35, 36 and the south half of Sections 27, 28 and 32). The area is currently zoned Agricultural and is expected to remain an area of agricultural and rural residential development. Lansing schools service a few parcels at the north end of the Township and the Eaton Rapids School District reaches over the County line slightly to service the parcels on the west side of the Grand River at the Township's southwest corner. A map of school district boundaries, **Map 12, School Districts**, is located at the end of the Community Facilities section.

The Holt Public School System is a major attraction for families who want to move into the Township. Holt schools participate in a number of innovative programs such as "year-round" schooling at Horizon Elementary School and Wednesday morning professional development for teachers within the district. Because of these programs and others, Holt Public Schools have won a number of prestigious state and national awards.

The Holt system currently includes six elementary schools, two middle schools, one high school, one educational opportunity center and one alternative educational facility. Recent additions and expansions include the 1994 addition of Washington Woods Middle School and Horizon Elementary School, and the conversion of a former bowling alley on South Cedar Street which was acquired for use as an educational opportunity center. Most construction has begun for the new high school, which comes on the heels of the existing high schools expansion in 1993 that almost doubled its size. These examples as well as enrollment statistics show that the Holt Public School District, like the Township, is growing.

Table 23, Holt Public School System Buildings within Delhi Township, provides a complete list of Holt Public Schools and supplementary buildings located within Delhi Charter Township.

Enrollment over the six years from 1992 through 1997 show a steady overall increase. The October counts were 5,005 in 1992 and rose to 5,392 in 1996. Currently, Holt schools employ approximately 583 employees, the largest employer in the Township, to educate a rapidly growing student population.

The Holt Public School System is equipped with an extensive bus system. The district owns approximately 35 buses and hires approximately the same number of drivers. The bus system serves all children who live more than 1.5 miles away from the school building they are attending. Additionally, the system buses all kindergartners and first graders who live more than 1 mile away from the elementary school they are attending.

The Holt Public School District and Delhi Charter Township have shared information during the preparation of this document. The Township Board and staff are coordinating on a regular basis to reasonably accommodate new residential growth and the need for educational facilities.

TABLE 23

Holt Public School System Buildings within Delhi Township

Facility	Street Address	Grades Served
Administrative Offices	4610 Spahr	
Elliott Elementary School	4200 Bond Street	Grades K-5
Horizon Elementary School	5776 Holt Road	Grades K-5
Midway Elementary School	4552 Spahr	Grades K-5
Sycamore Elementary School	4429 Sycamore	Grades K-5
Wilcox Elementary School	1650 Laurelwood	Grades K-5
Hope Middle School	2020 Park Lane	Grades 6-7
Washington Woods Middle School	2055 South Washington Rd.	Grades 6-7
Holt Junior High School	5780 West Holt Road	Grades 8-9
Holt Senior High School	1784 North Aurelius	Grades 10-12
Holt Transportation	2125 Delhi NE	
New High School (under construction)	5885 Holt Road	Grades 10-12

Private Schools

Delhi Charter Township has three private schools operating within its boundaries. The St. Matthew Lutheran School, located at 2418 N. Aurelius Road, provides a Lutheran-based education for approximately 125 students in pre-kindergarten through the 12th grade. Also, the Capital City Baptist School is located within the Township at 5100 Willoughby Road. This school currently educates 213 students from pre-kindergarten through grade 12. Additionally, the Lansing Christian School opened for the 2000 school year. Located on 3405 Belle Chase Drive in Section 2 of the Township, this facility is the largest of the three with a school capacity of 650 students. All of these schools require students to provide private transportation to and from each facility. The automobile trip generation characteristics of schools that provide little or no transportation services for students is an important consideration in selecting appropriate sites for these facilities. The opportunity for land use transition is also an important land use consideration.

Adult and Community Education

Through the Holt Public School System, Delhi Township offers adult education, which presently enables some 621 persons to work toward high school completion and GED certificates. In addition, the district provides a variety of opportunities and services through the umbrella of community education to over 55,748 participants. The community education program offers courses which include fitness, enrichment, craft skills and financial investment courses to all ages of residents living in Delhi--from infants to seniors. These courses are taught by members of the Township and other area professionals. Community education also holds special events like ethnic fairs and group weekend and day trips. Plus, it offers special childcare programs. Most programs require registration and other fees to participate in the opportunities offered through the community education program.

Vocational Schools

Delhi residents are located within the district served by the Capital Area Career Center (CACC). This building is located at 611 Hagadorn Road in Mason, Michigan. Delhi students who utilize the CACC can learn the skills needed to work in 16 different fields. Among other programs, students who utilize the CACC can prepare for careers in auto body/auto mechanics, business, construction trades, drafting, health occupations, laboratory science, medical office occupations, hospitality (hotel/restaurant) services, cosmetology, marketing, and welding.

Post-Secondary Education

Table 24, Post-Secondary Institutions near Delhi Township, lists schools, which are primary recipients of Delhi students. Each of these post-secondary institutions is located within a reasonable commuting distance from Delhi Township. In addition to those listed, both Central Michigan University and Western Michigan University offer courses through learning centers in Lansing.

TABLE 24

Post-Secondary Institutions Near Delhi Township

INSTITUTION	LOCATION
Davenport College	220 E. Kalamazoo Street, Lansing

Lansing Community College	500 N. Washington Square, Lansing
Michigan State University	East Lansing
Northwood University	500 W. Ionia Street, Lansing

Transportation and Road Systems

Road System

Delhi Township is accessible from two major freeways: I-96 and U.S.-127. I-96 connects with Detroit to the southeast and Grand Rapids to the northwest. U.S.-127 runs south to Jackson and I-94 and north to U.S-27. Both freeways provide access to I-69 as well. In addition, Eaton Rapids Road (M-99) is a State Highway. This provides a solid transportation link with the metro-Lansing area and beyond for residents and local businesses. The freeway system is shown on the Delhi Township location maps at the beginning of this document.

The Ingham County Road Commission is responsible for the road system in Delhi Township, except for the freeway system and M-99. These highways are under the jurisdiction of the Michigan Department of Transportation. The Road Commission plans for, and provides maintenance and improvements to, roads and bridges, handles traffic issues such as intersection development, the installation and maintenance of traffic signs and signals, and oversees all matters relating to the development of new roads. In Delhi Township, the Ingham County Road Commission provides maintenance and other services from its Metro Garage in Section 2 on Aurelius Road and from its garage and office located in the City of Mason.

County roads are classified as either "primary" roads that are designed to carry traffic cross-County or between major traffic generators or "local" roads, which carry traffic from home to the primary roads. Subdivision streets are considered local roads. There are 43.33 miles of primary and 76.81 miles of local roads for a total of 120.14 miles of County roads in Delhi Township. Almost without exception, the roads in Delhi Township are hard surfaced. There are four gravel roads in the Township and only Krantz, Hogsback and Miriam are expected to remain gravel. A street map is included at the end of the Community Facilities section.

The Road Commission receives funding from the Federal Highway Administration for road and bridge improvements and from the State of Michigan for maintenance and improvement of its road system. The Road Commission pays the total cost to maintain and improve the primary roads and the total cost to maintain the local roads. Townships and/or residents pay 50 percent or more to resurface or reconstruct local roads by State statute. New roads are generally paid for by the developers generating the need for these new roads. Delhi and all other Townships in Ingham County select which local road projects they want to spend money on, but act only in an advisory capacity to the Road Commission on all other projects and on maintenance needs. Because resources are extremely limited, project funding is often reactionary--prioritized by the "squeaky wheel" system of addressing only the worst situations.

Accident statistics are kept for intersections throughout the County and listed by Township when there are more than five accidents in one year. There are eleven Delhi Township intersections , which fall into this category. Top on the list is the intersection at Aurelius Road at Cedar Street, which averages over eighteen (18) accidents per year. The next two are Aurelius Road at Holt Road which averages over ten (10) accidents each year followed by Cedar Street at Fay Street

averaging just over nine (9). A complete listing of intersection accidents is included in the appendix. All but three of the intersections on the "over five" list are signalized intersections and analyses show that most accidents are rear end collisions that typically occur at signalized intersections due to driver error.

Public Transportation

Delhi Charter Township is included in the service-area of the Capital Area Transportation Authority (CATA). CATA provides a means for Township residents to travel both within the Township and into neighboring communities. Two CATA bus routes pass through the Township. The first, the Holt-South Cedar (#5), stops at the Holt Plaza, Holt Senior High, Hope Middle School, Windmill Trailer Park, the Cedar Park Shopping Center and numerous places in between on its way to downtown Lansing. The second bus, the Holt-Mason Express, follows a route similar to the Holt-South Cedar bus. As its name implies, the "Express" bus only makes stops at the Holt Plaza, the United Methodist Church (Holt and Cedar Street intersection), and the Cedar Park Shopping Center. It is designed to accommodate the needs of individuals who live in Delhi Township and commute to work in downtown Lansing.

Health Care Facilities

Delhi residents are primarily served by hospitals in Lansing. Specifically, health services can be attained at Sparrow Hospital, St. Lawrence Hospital, Ingham County Human Services, and the two Ingham Regional Medical Center locations. In addition, Delhi residents are also served by many local physicians, clinics and dentist offices located either within the Township or in surrounding communities.

Land Coverage

Table 25, Community Facility Area Breakdown, provides a statistical report of the area covered by community facilities in Delhi. Currently, community facilities as a whole cover approximately seven percent of the total land area in Delhi Township. Terms used in **Table 25** are defined as follows. Undeveloped Township-owned land is vacant property owned by the Township that is not being used for any particular purpose at this time, but may be utilized in the future. Developed Township-owned land includes the new Community Services Center, the Delhi Charter Township Wastewater Treatment Plant, the Downtown Development Authority, Fire Station 2, cemeteries and the Delhi Township Maintenance Facility. Township-owned parks are all parkland located within Delhi Township, which is under the operational authority of Delhi Parks and Recreation Department. Ingham County Community Facilities include Grand River Park and the Ingham County Road Commission Metro Garage. Private utilities are any property in Delhi Township owned by a utility company, which is used or has been purchased for future but excludes easements.

TABLE 25

Community Facility Area Breakdown

CATEGORY	ACRES
Undeveloped Township-Owned Land	109.09
Developed Township-Owned Land	207.58

Township-Owned Parks(developed)	80.09
Ingham County Community Facilities	586.71
Holt School District Properties	-360
Private Utilities	36.92

Conclusion

Based on the assessment and summaries of community facilities provided in the preceding pages, one can see that Delhi has a number of services to offer residents. The new Community Services Center provides a central location for the Township's administrative offices and public safety services as well as offering a large public meeting room and a library location with room to expand. Private utility service is well established throughout the Township. Delhi Parks and Recreation does an excellent job maintaining parkland and offering a variety of facilities within the Township and Ingham County adds two more. The Holt school system is considered to be among the best, not only in Michigan, but in the United States. Delhi's transportation network includes access to major highways, an extensive County road system and the metro-Lansing bus system. Delhi Township is indeed responding to the needs of its growing population.

Community Facilities Visions and Goals

Vision 1

To identify and establish locations for public facilities and public activities which serve township residents and promotes a sense of community.

Vision 1

Goal 1

The Delhi Charter Township Planning Commission shall promote the “Triangle” area to contain primary locations for Town Center and Public Property services.

Vision 1

Goal 2

The Delhi Charter Township Planning Commission shall identify needs for community facilities and plan appropriate locations as needs develop.

Vision 1

Goal 3

The Delhi Charter Township Planning Commission shall promote architectural design standards for the triangle and other community facilities as they develop.

Vision 2

Delhi Charter Township Planning Commission shall appropriately support plans and objectives of governmental departments and agencies that impact planning for community facilities.

Vision 2*Goal 1*

The Delhi Charter Township Planning Commission shall promote the safe, efficient, and economical movement of people and goods, through appropriate traffic access management techniques in areas of development to minimize traffic conflicts.

Vision 2*Goal 2*

The Delhi Charter Township Planning Commission shall appropriately support plans and objectives of governmental departments and agencies that impact land use planning for community facilities.

Vision 2*Goal 3*

The Delhi Charter Township Planning Commission shall recognize and consider other governmental departments and agencies long term approved plans.

Vision 2*Goal 4*

Delhi Charter Township Planning Commission shall plan for parks and open space opportunities as appropriate.

ENVIRONMENT

...Man never quite "subdues" or "conquers" Nature but perforce must make adjustments to natural conditions. Defiance or ignorance of this fact has ever resulted in disaster or distress."

- J.O.Veatch

- Soils and Land of Michigan

Introduction

When making plans for future land use within the community, it is imperative that the natural environment and features of the area be factored into the equation. Nature has a plan of her own, which must be observed and respected in order for planning efforts to be successful. Natural resources are limited and preservation decisions are an integral part of long-range planning. Natural conditions such as prime farmland, eskers, wetlands and floodplains guide land use decisions because they are uniquely suited to agriculture, excavation, natural habitats and flooding respectively. Natural conditions can also pose engineering challenges to development such as the extension of utilities, location of a septic system or development of a new road. The costs to overcome these challenges also serve as a type of guide for development decisions.

The two most significant categories of natural features affecting land use and long-range planning are soils and water. Both of these two elements are observed in detail in the following sections. Initially, brief comments are offered on the area's topography, climate, vegetation and environmentally sensitive areas.

Topography

Overall, the topography of the Township can be described as "very flat" making it suitable for farming as well as development of all types.

Climate

The climate in Ingham County, and therefore Delhi Charter Township, is cool and humid. The average winter temperature is approximately twenty-five (25) degrees Fahrenheit. Inversely, the average summer temperature is



Environment

With vast acreage of open space and farmland, communities must respect and protect those that are important. Delhi Charter Township recognizes those lands that are of significant importance and is taking the necessary step to protect them.

close to sixty-nine (69) degrees. The average seasonal snowfall in Ingham County is about forty (40) inches. The average amount of precipitation is nearly thirty (30) inches.

Vegetation

At one time, Ingham County was covered by deciduous forest land. In Delhi Township, trees such as Sugar Maples, Hickory and Oak are found in areas that contain well drained soils like the Marlette soil type. Soft Maple, Elms and Ash trees dominate the landscape in the more poorly drained, lowland soils of the Township.

Environmentally Sensitive Areas

Environmentally sensitive areas are those areas that have been deemed significant environmental lands. They contain or support some element of the environment that is important to plants, or wildlife. These areas include wetlands, water areas, forested lands, or simply open space.

For this project, certain areas within the Township have been given this identification of environmental significant. **Map 13, Environmentally Sensitive Areas**, indicates these areas within the Township. Specifically within the Township, areas that have been specified include wetlands and open space. Open space has been broken down into two different categories, existing and proposed. The existing is indicated by the green hatched pattern and has been identified to remain as open space. The proposed (yellow hatched pattern) has been identified through this Master Plan to be converted into open space. These areas, depending on the characteristics, possess an element that has been indicated as environmentally important.

These areas are now protected by a new site plan review. This existing review now includes an environmental checklist that all developments must adhere to before the site plan is approved. This checklist has been included for review as Appendix D.

Soils

Introduction

Good soils are essential not only the agricultural production of a community, but also the growth and development. The lack of good soils can determine areas of growth and the density of growth. Agricultural lands survive on nutrient life sustaining soils. These areas should be identified and preserved for agricultural uses. Crops cannot be supported in all soils, so those areas that can be used should be protected.

Development also takes decent soils to support infrastructure and building structures. It is important to build structures on soils that will support the weight. If inadequate soils are utilized buildings could settle unevenly or water seepage could damage the foundations. So even though the prime farming soils should be preserved, development also needs to take place on soils that will support it.

Wetland and Floodplains also have distinct soils that are only suitable for that of wetlands and floodplains. Typically, these soil types cannot support crops and are too loose to support development. These soils should be left undeveloped because of the role they provide in natural processes such as stormwater management and purification, in addition to the high cost to redevelop these soils for urban land use.

For all of these reasons, soils are an important factor in land-use planning. By considering the soil, land use planning decisions can be made to best protect the area's limited natural resources and the public's limited financial resources as well. Policy implications for the Township are significant when considering the future land use map, future sewer extensions and the location of sanitary waste facilities. On an individual basis, new residential sites should be carefully selected for suitable underlying soil as well.

Soils Map

Soil formation and patterns are unique to geographic areas. In Ingham County and indeed throughout the State of Michigan, the parent material of all of the soils was deposited by glaciers or melt water from glaciers that covered the County 10,000 to 12,000 years ago. Although all from the same source, the material itself varies greatly. As a result, it is possible to find many different soil types within a very small area. This is not true for other areas of the country where soil types stay constant throughout a square mile section. The frequent change in soil types limits the effectiveness of mapping efforts. It also necessitates on-site investigation for specific soil information. However, it is still possible to look at predominant soil types in an area in order to draw general conclusions.

The soils map located at the end of this section, **Map 14, Soils Map**, was created by Steve Law in the St. Johns' office of the Natural Resources Conservation Service (NRCS) with input from Bob Hicks in the Mason office. Soil types have been grouped into six different categories from the Soil Survey of Ingham County, Michigan. The descriptions of the different soil types and their limitations were based on writings found within this same source which was created by the USDA Soil Conservation Service. A complete list of soil types included in each category is included in the Appendix. A description of the different categories follows

The Eskers: An esker is a geologic term used to describe a narrow, winding ridge of stratified gravelly and sandy drift deposited in the past by a stream flowing beneath a glacier. The sand and gravel deposits are commercially desired for construction purposes. Excavation of the esker removes the ridge and often continues below ground level leaving a pit or pond with standing water. Eskers are extremely porous allowing water through at a rapid rate and providing very little filtering. This makes them extremely susceptible to environmental contamination. Delhi Township has a relatively high concentration of eskers including the Mason Esker that runs from the City of Mason, through Holt along Cedar Street and north through Lansing. Other than their geologic origins, eskers are similar to other mineral soils in their physical properties.

Mineral Soils: These soils have good potential for cropland, pasture, woodland and recreational uses with some slight modifications. They have severe limitations as building sites due to wetness and low strength. The water table is shallow on a seasonal basis that causes lots of shrinking and swelling and frost activity causes it to heave. Wetness also causes severe limitations to on-site sanitary facilities.

Muck Soils: These soils have major limitations due to excess water, flooding, poor drainage outlets and unstable soil material. They have limited use as recreation areas, croplands, woodlands and pasture. Some areas have good potential for truck and specialty crops. They have good potential for wetlands and wildlife habitat. Building site development and sanitary facilities are not practical on this soil. The limitations caused by the high water table (which rises to within 6" of the surface in the winter and spring) and flooding are difficult to overcome.

Floodplain Soils: Floodplain soils are found along streams and rivers and have been subject to flooding throughout time. Their potential is fair for cropland and recreational uses when excess water and flooding can be managed or tolerated. The potential is good for pasture when adjustments can be made to avoid compaction of the soil and is good for woodland. Building site development and sanitary facilities are not practical on this soil. The limitations caused by the high water table and flooding are difficult to overcome. Please note that floodplain soils are created by natural forces over the course of a million years. They are not necessarily the same as floodplain boundaries calculated through the Federal Emergency Management Act (FEMA) in the establishment of a 100-year floodplain (see floodplain details in the Water section).

Severely Limited Soils: As the title indicates, this category of soils has limitations for most uses due to excess water. There is good potential for cropland, pasture and woodlands and fair potential for recreational uses. Wetness also limits the use of this soil for building sites and basements are specifically discouraged. Because of the high water table there are severe limitations for on-site septic service which are described in the Ingham County Soil Survey as "difficult to overcome."

Sandy Soils with Slight to Moderate Limitations: This category has a low water capacity and fairly good permeability. It has fair potential as cropland and recreational uses and good potential for pasture and woodland. A limitation to all four of these uses is drought and a sandy surface layer. The soils in this category are considered suitable for building sites and on-site septic service except in areas with a steep slope. The soil's permeability does raise a concern that septic tank absorption fields can easily cause groundwater contamination.

Observations

Although there are several limitations to presenting soils information in this type of simplified format, general observations can be made. Out of six general categories, only one is described as suitable for building sites and on-site septic service. In fact, information in the Ingham County Soil Survey suggests that 84% of Ingham County Soils are unsuitable for on-site septic systems. If only 16% of the land is suitable for building and septic systems, several development issues are raised. Sewer service is desirable for all areas of concentrated development. Individual building sites should be very carefully selected for both the structure itself and the septic system if sewer service is not available. Design modifications should be made when necessary to overcome physical site limitations. Also, the Township should work closely with the County Health Department when on-site septic permits are required.

Eskers, as noted above, are very porous and sensitive to environmental contamination. The Mason Eskers run generally parallel to Cedar Street and through the district boundary for the D.D.A.--an area planned for higher intensity residential, commercial and industrial development. This apparent conflict can be best mitigated through careful application of development regulations designed to prevent contamination through the soil into the groundwater.

As expected, floodplain soils are found adjacent to the Sycamore Creek in the northeast corner of the Township and along the Grand River in the southwest corner. They are also found scattered along several of the County drains including the Cook & Thorburn in Section 24 and the Grovenberg in the northeast corner of Section 29. Floodplain soils are not all found in the federally designated 100-year floodplains suggesting that flooding can be a problem for locations outside of the floodplain. In fact, five of the six soil categories listed restrictions due to wetness and/or a high water table. This again brings out issues of development limitations and the need for careful environmental protection measures.

Important Farmlands

The U.S. Department of Agriculture Natural Resources Conservation Service looks at soils from the perspective of its suitability for agricultural purposes. It groups soils together for identification of Prime Farmland, Unique Farmland and Additional Farmland of Local Importance. Prime Farmland is defined in part as "...land that has the best combination of physical and chemical characteristics for producing food..." Unique Farmland is "...land other than Prime Farmland that is used for the production of specific high value food and fiber crops..." The category of Additional Farmland is defined as "...nearly prime..." In Delhi Township, there is no area mapped as Unique Farmland. The area around downtown Holt, the mobile home park in Section 28, several areas along Cedar Street and some along I-96 are mapped as urban growth areas. Other than water, floodplain or areas of gravel excavation, the rest of the Township is considered either Prime or Additional Farmland. This does not suggest the need to preserve any one limited or unique location for agriculture although it does indicate that most areas outside of the urban core of the Township could be successfully farmed.

Conclusion

Delhi contains a wide range of soil types, which are scattered in small areas throughout the Township. Due to mapping limitations, it remains extremely important that on-site soil analysis be done in all instances to obtain accurate information. Soil characteristics affect the site whether it is vacant, or used for agriculture, residential, commercial or industrial purposes. It affects the site's interaction with water including drainage (or lack of) and its ability to act as a natural filtering system. It affects a site's suitability for or limitations to development. A great majority of the soils in Delhi Township contain limitations to development, which should be carefully considered during a site-selection process for any use. It also affects a site's productivity in agriculture. Most rural areas of the Township contain soils suitable for agriculture although there is no area designated as "unique farmland."

Water

Introduction

Water is one of the most significant natural features to consider when planning for the physical development of a community. Water works its way through a repetitious cycle of renewal--falling as rain or snow, being absorbed into the earth's physical body and then evaporating back into the air. It appears in different areas of the community with a variety of environmental and regulatory significance in each instance. Watershed areas are identified for areas sharing a common drain. Aquifers serve as an underground source of fresh water for a specific Region. Wetlands are areas where water and land meet which offer a combination of environmental and aesthetic benefits to an area. Flood plains are areas adjacent to open water bodies, which are prone to flooding. For each of these areas, there are statutes or guidelines and departments or organizations in place to protect water as a natural resource in its natural condition. This chapter explores these four separate instances where water can be incorporated into land use planning in terms of both its role in the environment and its local significance in relation to Regional, state and federal regulatory issues.

Watersheds

A watershed is a physical area of land which is drained by a common source--a river or river system. Because water naturally flows downhill, watershed boundaries are drawn by connecting the points of highest elevation around a body of water. All of the land found within the "raised" boundary, then, drains to the body of water at the low point of the watershed.

There are two major watersheds in Delhi Township. The Grand River Watershed is located over the western half of Delhi. The other major watershed, Sycamore Creek, directly abuts the Grand River Watershed. The Sycamore Creek Watershed covers the eastern half of Delhi Charter Township.

Because watersheds are formed by physical boundaries, political boundaries have no significance when defining a watershed. Watersheds contain all or parts of many different political jurisdictions. Organizations such as the United States Department of Agricultural (USDA), the Natural Resources Conservation Service and Agricultural Extension Agencies actively sponsor the formation of watershed associations to address issues of water quality because contamination in one area will quickly affect the larger area. Delhi Township is part of the Sycamore Creek Watershed Hydrologic Unit Area. This group actively provides technical and educational assistance to the farm and non-farm community to improve water quality by reducing groundwater pollution due to run off.

The Ingham County Drain Commissioner is also involved in watershed management to protect the quality of surface water run off. Delhi Charter Township is presently cooperating with the Ingham County Drain Commissioner in preparing a watershed management plan for the protection and development of these lands.

Groundwater

The earth has an overall water supply which remains fairly constant through the centuries and which is recycled repeatedly through a natural filtering system. Less than one percent is usable fresh water--an extremely valuable natural resource. Of all fresh water, 97% is located underground and is known as groundwater.

Water repeatedly travels through a cycle of air, land and water. Water falls to the earth in the form of rain or snow. Some of it goes directly into surface water bodies, some is absorbed by plants and some sinks down into the soil. Water that filters through the soil eventually gets to an aquifer. The top of the aquifer is called the water table and is at the same level as nearby lakes and streams. The aquifer itself, lying just below the water table, is a layer of porous sand or rock in which all of the empty spaces are filled by water. Aquifers hold water like reservoirs and allow it to move from place to place. Water moves slowly in a given direction, quite unlike the underground river it was once imagined to be. To complete the cycle, groundwater returns to the surface either naturally via lakes or springs or it may be pumped to the surface through a man-made well.

Aquifers are our main source of clean freshwater including drinking water. The water is clean because the sand or rock making up the aquifer layer provides an additional filtering system. As a result, both individual and municipal wells take water from the aquifer for household and regional water supplies. A detailed chemical analysis of the quality of the water supply is

available through the 1992 Tri-County Regional Water Feasibility Study. In the Tri-County Region, groundwater is the source for over 90% of water used.

Care must be taken above the ground in order to assure a plentiful, clean water supply. Contamination from any one source can enter the aquifer and affect all of the water within it. Also, the rate at which water is removed from the aquifer by wells needs to be balanced with the rate at which the aquifer is replenished so that the water level (and therefore the water supply) remains constant. In the Tri-County Region, the Groundwater Management Board promotes all of these methods of good stewardship.

Delhi Township is one of twelve dues paying members of the Groundwater Management Board (G.M.B.) which was created in 1983 as an ongoing forum for groundwater protection issues. The main focus of the G.M.B. is on education--especially for local officials. By making direct presentations to Boards, Councils and Commissions, staff of the G.M.B. helps to assure that new local officials are well informed on issues related to drinking water resources. In addition to presentations, the G.M.B. has developed a Groundwater Resource Center as a result of a grant from the Kellogg Foundation, created the mid-Michigan Water Authority, developed a Regional Computer Aquifer Model, and has helped G.M.B. communities to delineate wellhead protection areas for their municipal water wells. By working together, G.M.B. communities have saved time and money while creating strong protection programs, which are unique within the State of Michigan.

To pursue groundwater protection at the Township level, Delhi can pursue several different planning initiatives. Delhi Township has already developed site plan amendments within the zoning ordinance regarding wellheads. This site plan review ensures the protection of these areas from development. A workbook has been developed by the G.M.B. with a "fill in the blank" approach to help with the development of management plans. Classes are offered periodically and staff from the G.M.B. is available to provide assistance. Some Wellhead Protection Areas cross municipal lines into the City of Lansing and Alameda Township, suggesting that protection efforts should be coordinated where possible. Also, Delhi Township can work cooperatively with the Board of Water & Light so that areas already selected for future municipal wells are taken into consideration when making land use decisions. A third initiative available to Delhi Township is to work cooperatively with the Ingham County Health Department to make sure that individual wells are properly abandoned when municipal water becomes available. Because wells provide a direct passage to the aquifer for surface contaminants, abandoned wells that are not properly plugged are a threat to groundwater resources.

The threat of groundwater contamination is a real one for Delhi Township. At this time there are areas of pollution within Delhi Township on record at both the State and County levels. The Environmental Response Division of the Department of Environmental Quality (DEQ) regulates sites defined as "contaminated" by State Statute (Part 201 of P.A. 451 of 1994). Known as "201 Sites", the State currently reports four within Delhi Township including the Gunn Road Landfill. The Underground Storage Tank Division of the DEQ is responsible for keeping track of Leaking Underground Storage Tanks (LUST sites) which are not included as 201 sites. The LUST site list is done by city rather than Township and includes eleven located in Holt. At the County level as part of the Well Permit Program, the Ingham County Health Department keeps track of sites where contamination is known or likely to exist in order to prevent new wells from being located on or near the site. Although some listings may also be considered 201 or LUST site listings, the Health Department lists fifteen sites within Delhi Township and sixty-four throughout the County. Remembering that groundwater contamination does not stop at municipal lines, it is clear

that great care must be taken through sound planning practices to assure that Township residents continue to enjoy a plentiful, quality water supply.

Wetlands

Wetlands are those areas where land and water meet. They are areas commonly called swamps, bogs or marshes but can also be low-lying forest or meadowland where water is not visible above the land surface. Wetland areas are identified by the presence of water and by plant species and soil conditions. Typical wetland vegetation includes trees such as cottonwood, red and silver maples and northern white cedar; shrubs such as alder and cranberry and plants like cattails and bulrushes. Wetland soils tend to be dark or dull and moist to the touch and often have a high organic content. There are approximately 5 million acres of wetlands in Michigan--75% of which is forest area.

Wetlands are an important part of our ecosystem. They provide rich habitat areas for fish and wildlife, sedimentation control, water purification and flood control. They also provide scenic natural environments for recreation and tourism enhancement.

Wetland maps are available through both the U.S. Dept. of Interior and the MDNR. The Department of Interior offers the National Wetland Inventory Maps, which are created by interpretation of aerial photographs for the purpose of identifying wetlands. The MDNR offers the Michigan Resource Information System (MIRIS) which is a digitized computer mapping of land cover types. It has several categories, which pertain to wetlands, but is not specifically intended to locate wetlands. Either map alone cannot be used to delineate wetland areas definitively, but can be a good general guide. Supplementary data from the Ingham County Soil Survey and site specific aerial photos can be used as additional indicators. To obtain specific wetland delineation, an on-site investigation must be performed by a qualified professional.

Wetlands are regulated by state statute (Part 303 of P.A. 451 of 1994) and administered by the MDEQ. Activities, which disturb a wetland such as dredging, filling, draining or development on a wetland, are extremely limited and usually require a permit. Development is restricted within a wetland as a protective measure for environmental concerns and also because wetlands present several serious constraints to construction. Wetland soils are unstable which is costly to overcome from a construction standpoint. Even with specialized designs, cracked walls and foundations are common due to flooding and settling both in and around wetlands.

Although regulation of wetlands is done at the State level, Delhi Township must coordinate with the MDEQ to make administration of the Act effective. By being aware of possible wetland areas, the Development official can steer developers to the MDEQ when development sites are likely to be regulated wetland areas. Specific administrative procedures can be written into the Township zoning ordinance to give the local official more authority in this area. Local wetland regulation can preserve and protect obvious wetland areas and these areas can be incorporated into the Zoning District Map and the Future Land Use Map as low intensity development areas, open space or park areas. The Township has a legal authority to adopt a local wetlands ordinance should a need be identified, but should this ordinance should already be installed to prevent costly delays and oversights. By supporting existing state legislation, a valuable natural resource within the community can be preserved.

Flood Plains

Flood plains refer to those areas, which are adjacent to lakes, rivers, streams and ponds that are prone to overflow and flood their banks. Land within the 100-year floodplain statistically has at least a 1 percent chance of flooding in any given year and therefore a 100 percent chance of flooding within a 100 year period. Flood plains differ greatly in size depending upon factors such as the permeability of the soil and the volume of water within the water body.

A floodplain contains three basic components. First, there is the channel, which is the area of normal stream flow. Second, there is the floodway, which is the 100-year flood plain. The third piece of a floodplain is the flood fringe--the land between the floodway and the outer limits of the areas known to be subject to possible flooding.

According to the maps printed by the Federal Emergency Management Agency (FEMA), there are six regulated flood plains in Delhi Charter Township. The Delhi Township Flood Plain Maps found within this chapter provide the general location of each. For mapping purposes, both FEMA and Delhi Charter Township combine the floodway and channel into a single classification. It is interesting to note that these areas were defined through mathematical modeling and that the resulting limits are not necessarily the same as areas shown on the soils map as flood plain soils.

A flood plain has the natural significance of being an area likely to flood--thereby endangering life and property. In 1968, the U.S. Congress passed the National Flood Insurance Act (NFIA) creating the National Flood Insurance Program (NFIP) and gave flood plains a regulatory significance as well. The NFIP shifted the financial burden of funding flood disaster from the government (and therefore the taxpayers as a whole) to those most likely to need the dollars through the establishment of self-funding insurance program. Flood insurance that had not been available before was made available and was made a requirement of receiving a mortgage from any federally backed lender for structures located in the 100-year flood plain. The program is administered at the local and state levels and imposes strict limitations on any type of development activity within the 100-year flood plain. Communities "participate" by adopting local flood plain management ordinances and must be "participating" in order for residents to be eligible for the insurance. Delhi Township entered the program in July of 1981 and has incorporated flood plain regulations into the Township's Zoning Ordinance and building code.

There are several policy implications at the Township level as a result of the NFIA. Financial incentives are built in to encourage correct administration of the program. The State Department of Environmental Quality (DEQ) has the authority to issue permits for development activities within the regulated flood plain area but it is local administrators who assure that the permits are secured when required. An administrative oversight that allows construction in the flood plain will cost a resident property owner money through flood insurance premiums annually once discovered and will affect property value. Communities, which fail to comply with program requirements, may be suspended from the program eliminating local lending options for residents.

Communities are offered an additional financial incentive for doing more than the minimum required by the NFIP. The NFIP establishes a voluntary community rating system (CRS) scored from 1-10 with non-participating communities being given an automatic score of 10. In communities where a lower rating system is achieved, residents receive reduced insurance rates. Recognized activities within the CRS scoring schedule include public information, mapping, and flood damage reduction. Delhi Township may choose to participate in the CRS program at some time in the future.

Conclusion

Water is a significant natural feature and resource to be considered and protected through the comprehensive planning process. Watershed boundaries tie together a collection of municipalities who share the same drain. Special watershed organizations promote best management practices in order to prevent contamination to the river or river system. Groundwater--and specifically the Regional aquifer--is the major source of the area's water supply. Delhi Township participates in the Groundwater Management Board in order to actively protect the area's groundwater resources. Wetlands exist throughout the Township and offer many natural benefits including water purification, flood management and unique habitats. Through coordination with the State Department of Environmental Quality, Delhi Township can continue to protect this natural resource. Flood plains are areas prone to flooding as defined by a series of Federal maps. They exist adjacent to lakes, rivers and drains in the Township and need to be carefully protected both to prevent flood damage and to comply with federal and state regulation. Delhi Township has already taken several steps to protect the water quality and supply of the Region and may choose to increase its efforts through initiatives suggested throughout this chapter.

Solid Waste Management

Introduction

Issues related to solid waste management are regulated at the state level by Part 115 of Act 451 of 1995, amended 1999. The Act requires that each County develop a plan to address issues such as refuse (trash) disposal, identification of landfill disposal sites and recycling or resource recovery efforts.

Refuse Disposal

Within Delhi Township, all refuse disposal is done by private contractors on an individual subscription basis. At this point, the Township does not have specific licensing or level of service requirements for haulers operating within the Township. It is very likely that the next Ingham County 641 Plan will include language suggesting the licensing of private haulers which must be done at the local level. Refuse collected within Delhi Township may be disposed of at either of two Granger landfills (Grand River Avenue or Wood Street) or at a BFI facility in Calhoun County. Each of these three facilities has approximately twenty (20) years of remaining capacity.

As time and population grows new sites will be needed to support the disposal of refuse. It is likely that the new County 641 Plan will include an expanded list of such sites. Along with the expanded disposal sites, there will also be a need for area transfer stations. These will likely be sited south and east of Lansing and may include a location in or near Delhi Township.

Incidents of illegal hauling and illegal dumping within Delhi Township suggest the need for increased enforcement. It is apparent that there is no lack of disposal sites in the Region, but instead an increase in negligence associated with dumping.

Recycling

Recycling within Delhi Township is also done by private contractors and arranged on a private subscription basis. Delhi is the only Township in Ingham County, which does not have a drop-off

center for recycling located within its boundaries. The Township does help to fund a site in Mason at the Drain Commissioner's office that is available to residents 24-hours a day, 7 days a week and Granger's Wood Street location also offers a public drop-off facility.

Recycling of yard waste is currently available to Delhi Township residents on a limited basis. In 1997, the Township recognized the need for brush chipping services. A chipper was purchased and a brush "drop off" program has been organized which allows residents to drop off brush at a designated park location at different times during the year. For other types of yard waste, options are limited to paid collection services, on-site composting or burning for a limited period in the fall by permit. Landfilling of yard waste is now prohibited by law. To be sure that yard waste material will be managed appropriately, many communities have found that municipal composting sites are low in cost and easy to administer. Short of offering the service themselves, other communities have opted to include yard waste collection as part of municipal licensing requirements for private collectors.

Conclusion

There are several policy issues related to solid waste management within Delhi Township. The Township should be aware of activities at the County level which relate to updating the 641 Plan and consider active participation in the process. The Township may also want to consider adopting licensing and level of service requirements for private trash haulers operating in the Township. Recycling is an area which the Township may choose to more actively support at the local level for both materials and yard waste either through its own initiative or through the licensing requirements mentioned above. The drop off chipping program is a first step in this direction. By carefully considering issues related to solid waste disposal, the Township can play an active role in the development of the County Plan, promoting recycling where possible and assuring that waste haulers provide a quality service to Township residents.

ENVIRONMENT VISIONS AND GOALSVision

Delhi Charter Township shall embrace the characteristics of the natural environment by adopting policies, regulations, zoning, and plans that preserve environmental resources from the impacts of development and enhance them to the extent possible.

Goal 1

Protect environmentally sensitive areas within the township.

Goal 2

Protect the groundwater, surface waters, and shorelines.

Goal 3

Minimize noise, odor, smoke, vibration, (toxic) emissions, light pollution, dust, and glare.

Goal 4

Preserve open space.

Goal 5

Manage development to avoid reducing parcel sizes where infrastructure does not exist to support it, and prevent extending infrastructure until currently available sites for development are utilized.

Goal 6

Prevent unnatural flooding.

Goal 7

Ensure proper septic system management.

Goal 8

Delhi Charter Township shall demonstrate environmental stewardship as a model for all to follow.

FUTURE LAND USE PATTERNS IN DELHI CHARTER TOWNSHIP

Planning Strategy

The purpose of this element is to describe and clarify Map 17, **Future Land Use**, proposed as part of this Master Plan (MP). This element breaks down the general planning and development areas into sub-areas for more specific description.

The Vision & Goal statements as described for Future Land Use have been formulated into a planning Strategy for future land use which addresses the following four elements;

Planned Growth Areas

Anticipated residential population growth to the year 2020 planning horizon has been planned to be accommodated within the residential development areas. Anticipated commercial and industrial growth has been planned to be accommodated within the primary and secondary growth areas. These planning areas allow for a logical extension from the existing land use pattern and can be reasonably accommodated within the sanitary sewer service area. In addition, the Township Services Boundary defines the southern limit of public water and sewer services.

Regional Perspective

Delhi Charter Township occupies a unique position within the urbanizing area, which surrounds Lansing, the central Place City. Delhi Charter Township is adjacent to the southern boundary of the City of Lansing and is experiencing (and will continue to experience) development pressure in the northern portion of the Township. Delhi Charter Township also abuts three rural Townships (Windsor, Aurelius, and Alaiendon Townships). The future land use plans of these communities have been reviewed for the purpose of coordinating the future land use proposals of this document adjacent common borders.

Economic Base Diversification

Recognition that the Master Plan must provide geographic areas which are well planned, relate well to adjacent land uses, and preserve and enhance the non-residential economic base of the Township. The MP provides opportunity for nodes of non-residential development in locations that provide appropriate infrastructure and, through the opportunity for land use transition, provide protection for planned residential areas.



Future Land Use Patterns

To sustain growth and quality of life in the community for the future, a framework must be planned out today. Delhi Charter Township plans for the future in the present so that the community will thrive for future generations as it does today.

Environmental Preservation and Enhancement

A commitment toward recognizing and protecting the open space areas and the rural environment of the Township that is the very characteristic, which attracted people to Delhi Charter Township.

Planning Areas

This planning document proposes five broad planning areas as a means of reasonably and appropriately accommodating new development within the Township, as well as protecting the quality and character of existing development. By identifying these five areas, it is envisioned that the Township can clearly support new development, protect existing residential neighborhoods, as well as preserve rural areas for their open space character.

The five Planning Areas are described as follows.

Residential Development Area

That geographic area where the majority of new residential development will be accommodated. This land area represents the logical progression of residential development while emphasizing logical concentration of compatible land uses, which can be served by the existing infrastructure system.

The Residential Development Area is divided into two parts: the north-east area of the Township (the majority of Sections 11, 12, & 13), and the central and western portions of the Township (sections 18, 19, 20, 21, and the north 1/2's of sections 26 & 27).

Primary Development Area

That primary geographic area which includes existing non-residential development and is expected to accommodate the bulk of the new non-residential development. The Primary Development Area is composed of three basic nodes. The first node includes Sections 1 & 2, north of I-96 and west of U.S.-127. This area has seen strong non-residential growth in the past five years as public infrastructure (water, sewers, and roads) have received investment from the Township and the Downtown Development Authority. The quality of the retail, office, and other non-residential development in this area has become a model to be emulated in other non-residential portions of the Township. There remains significant land for office, warehousing, light industrial, and other non-retail development. Generally, development of additional institutional land uses should be reserved where the opportunity for land use transition is appropriate.

The second non-residential node comprises parts of Sections 14, 15, and 23 surrounding the Community Activity Center, (the Aurelius, Cedar, and Holt Roads triangle) where existing non-residential development is well established. This node provides the primary entrance into the community from the City of Lansing at the intersection of Cedar Street and Willoughby Road. Because much of this area is already developed, non-residential development should concentrate on how redevelopment occurs. Redevelopment of nonconforming buildings should ensure that current zoning requirements for sidewalks, greenbelts, and parking lot landscaping are implemented. New development of vacant property should provide appropriate land use transition between commercial districts and established residential neighborhoods.

The third non-residential node is sections 24, 25, and 36 south of Holt Road, adjacent the east and west sides of Cedar Street, and west of College Road. This area is largely undeveloped, but is beginning to develop with the industrial park at the corner of Holt and College. Implementation of the plans for these areas should include minimum standards for building design.

As opportunities arise, existing business establishments adjacent Cedar Street should be encouraged to bring site requirements for sidewalks, greenbelts, and parking lot landscaping up to current ordinance requirements.

There have been many development plans for various parts of this area adopted over the last decade, and they are incorporated into this MP update by reference. However, the Downtown Development Authority, in coordination with the Ingham County Road Commission, is designing a plan for the reconstruction of Cedar Street between Holt Road and College Road. This presents an opportunity to further refine and consolidate these plans in coordination with the reconstruction of Cedar Street. A more extensive land use study and plan for the Cedar Street Corridor is recommended as a follow-up to the 2002-2020 Master Plan.

Secondary Development Area

The Secondary Development Area includes Section 7 west of Gilbert Road and part of Section 18 west of the West Town Drain. This geographic area is due to receive improvements to the public water and sanitary sewer systems as a result of infrastructure improvements developed to serve the new Holt High School site on Holt Road. These infrastructure improvements, in combination with good roadway access from Waverly Road and the M-99 interchange with I-96, will increase opportunities for new non-residential development in this area. The development of this area would be well served by development that provides job opportunities for Township residents. Commercial, office, and light warehousing development similar in nature to the development that has recently occurred in Sections 1 & 2 of the Primary Development Area should be encouraged. This area also provides an opportunity for neighborhood scale retail development to serve the growing residential development in the western portion of the Township.

The Delhi Charter Township Planning Commission has reviewed this area and concluded that office uses are the appropriate transitional land use for this area and the remainder of Waverly Road to the south shall be single family residential.

Community Activity Center

This is the area within which the Master Plan envisions a focal point for the community and to provide local governmental, commercial, and retail services to residents. The Community Activity Center should be promoted and enhanced with aesthetic improvements, which create the appearance and feeling of a unique physical space within the community. The development of pedestrian links to community shopping opportunities and local institutions, both religious and government, is a priority for this area.

This is the area where the Town Center zoning district is an appropriate implementation tool for redevelopment of unique buildings. The development standards for the Town Center zoning district need to be reevaluated to further encourage preservation of historic structures, which give the Community Activity Center its unique character.

Rural and Open Space Emphasis

The purpose of this area is to retain within the southern one-third of the Township an environment, which retains the rural and open space character and is not located within an infrastructure service area. This area is envisioned as preserving the existing agricultural operations, protecting woodlands and wetlands because of their natural characteristics for water retention, ground water recharge, plant and animal habitat, and the aesthetic and scenic value of the open space environment.

The Rural and Open Space development area primarily consists of the southern 1/3 of the Township south of McCue and Harper roads. It also includes property owned by Michigan State University in Section 1. The Township needs to develop and implement policies and programs to ensure existing agricultural operations can be maintained as viable businesses and are not disrupted by piecemeal residential development.

Land Use Categories

The following categories describe the various types of land use which have been recommended for Delhi Charter Township. Each category relates to the future land use map and will encompass existing land use or a recommended pattern of land use. This future land use map recognizes existing development trends, addresses the Mission Statement of the Master Plan, and proposes a logically planned pattern of land use which maximizes the availability of infrastructure and focuses on the preservation of open space and rural areas.

The Land Use Categories can be described as follows:

Residential

The residential category is the land use area, which encompasses the primary housing area for the Township. It is divided into three density ranges: (maximum of 2.38 units per acre), medium density (maximum of 3.45 units per acre), and high density (maximum of 6.90 units per acre with duplexes or maximum of 4.96 units per acre for single dwellings). The low density category is primarily implemented by the R-1-A and R-1B Zoning Districts, the medium density category will be primarily implemented by the R-1C Zoning District, and the high density area will be implemented by the R-1D, R-1E, and R-M Zoning Districts.

Office/Commercial

The office/commercial category is the land use area, which offers the Township the majority of retail, office, and personal services for the residents of the Township. Typically concentrated along major transportation corridors, these non-residential land uses have been focused in three major areas...the Cedar Street Corridor, eastern Holt Road, and the Waverly Road/I-96 location. This land use category is generally implemented by the C-1, C-2, and C-3 Zoning Districts.

Manufacturing/Warehousing

The manufacturing/warehouse land use category is identified as the primary land use category, which enhances the tax base and promotes employment opportunities. This land use category recognizes the location of existing manufacturing/warehousing sites and encourages appropriate new sites, which minimize potential conflicts with adjacent residential uses. The

manufacturing/warehouse category is generally implemented by the IW, IR, IA, IM, and IP Zoning Districts of the Delhi Charter Township Zoning Ordinance. Additionally, the majority of this land use is located within the boundaries of the Downtown Development Authority.

Community Activity Center

An area to provide local governmental, commercial, and retail services to residents of Delhi Charter Township, this land area is intended to recognize and establish a visual and functional focal point for the Township.

The Community Activity Center is intended to be a geographic focal point for a variety of activities, land uses, and public facilities which provides basic services and promotes a sense of community identification and pride.

Parkland and Open Space

An identification of the privately and publicly owned park and open space areas within the Township. These areas represent both developed and undeveloped, active and passive recreational areas, which currently provide, or are intended to provide, recreational opportunities and open space enhancement. This area also includes agricultural land uses, primarily crop farming.

Community Facilities and Publicly Owned Land

A recognition of the land areas currently owned by Delhi Charter Township which currently provide a range of community services. Additionally, this land use category identifies that land area in Section 1 currently owned by Michigan State University.

Land Use Visions and Goals

Vision – Land Uses within the township, while primarily single family residential, will provide diverse housing opportunities as well as commercial, industrial, employment and recreational support for township residents.

Goal 1 – Delhi Charter Township Planning Commission will ensure compatible adjacent land uses through transitional land use and zoning patterns.

Goal 2 – Delhi Charter Township Planning Commission will identify areas where current zoning is inconsistent with the Future Land Use Map and prioritize those areas for changes in zoning.

Goal 3 – Delhi Charter Township Planning Commission will review current implementation tools and requirements, then propose appropriate changes to the Township Board needed to implement this MP.

Goal 4 – Delhi Charter Township Planning Commission will implement a Public Infrastructure Boundary as shown on the Future Land Use Map.

Goal 5 – Delhi Charter Township Planning Commission shall attempt to protect agricultural land for agricultural uses as long as agriculture is a viable industry in the township, particularly south of the Public Infrastructure Boundary.

Goal 6 – Delhi Charter Township Planning Commission shall generally seek suitable locations for high density residential and institutional land uses based upon the principal of land use transition and appropriate access to primary roadways.

IMPLEMENTATION TOOLS

The Master Plan is a statement, illustrated by graphics, of visions and goals concerning the future physical development of the community. Positive actions are required on the part of both public and private interests, acting in concert, to ensure the Plan's proposals are realized. Private actions include investments in homes, stores, factories, farms, and the care of these investments. Public actions include investments of time, energy, and funds to adopt the Master Plan and its "Tools" to implement same. Following is a brief explanation of major tools utilized to implement the Master Plan.

Zoning Ordinance

The Zoning Ordinance is the major tool available to local government to implement the land use element of a comprehensive plan.

Delhi Charter Township's Master Plan indicates urban growth areas of different densities and provides locations for commercial and industrial areas. The Comprehensive Plan provides very general land allocations, and on the Zoning Map these general areas are translated into precise land use boundaries through the application of specific land use decisions. The purpose of zoning is to regulate the use of land and buildings to protect areas of uniform development from the adverse effects of disruptive land uses, which would tend to lower economic value, efficient operation, and the physical and social amenities of the surrounding properties. A disruptive land use can be residential, commercial, industrial, or rural land use. The zoning ordinance provides the regulatory tool for placing land uses where they are not disruptive.

The Zoning Ordinance should be thought of as being part of the Comprehensive Plan. Obviously, however, they are distinct legal entities with distinct separate functions. Also, the Comprehensive Plan and Zoning Ordinance are distinctly related due to the very essence of what each accomplishes.

- 1) The Comprehensive Plan sets the framework within which the Zoning Ordinance operates, according to the laws of the State of Michigan, and
- 2) The Zoning Ordinance is one of the tools which enables the Comprehensive Plan to be implemented.



Implementation Tools

In order to change the growth patterns of the community, implementation tools must be utilized. These tools are used to enforce the future land use map.

The zoning of a specific property may or may not reflect the existing use. The Plan should act as a guide to the actions of the Planning Commission and the Township Board in reviewing and acting on zoning applications and amendments. The elements of the Comprehensive Plan will be thrown out of balance if the Plan and Zoning Ordinance are not carefully coordinated. The Land Use Plan of the Comprehensive Plan is comprehensive in a way no zoning map can be in that the Land Use Plan relates and coordinates the elements of Township development, permitting a well-planned community.

The Zoning Ordinance is adopted by the Delhi Charter Township Board of Trustees on the recommendation of the Planning Commission, while the Comprehensive Plan is adopted only by the Planning Commission and endorsed by the Board of Trustees. Although not required by law, this endorsement of the Plan by the elected officials ensures that there is general agreement on the planning and development policies of the Township.

Subdivision Regulations

A second tool used to effectuate the Comprehensive Plan is the Subdivision Control Ordinance (SCO). This regulatory device sets minimum standards for the division of land into parcels for residential properties and other uses. The SCO is designed to insure that economic value of sites is not impaired because of unwise land subdivision design (lots, streets, and open space) and construction of substandard streets and utilities which the community will be required to maintain later at taxpayer's expense. Well planned subdivisions don't just happen. The provision of adequate lot sizes, street widths, utilities, and usable dwelling lots, will increase the value of the entire subdivision over the years, allowing for greater economic benefits for the owners and lower maintenance costs for the community. The character of an area is set for many years to come by the initial design of streets and lots and will be a measure of quality, or its opposite, for a subdivision.

Zoning works in conjunction with the SCO to set minimum lot sizes and setbacks. Also, zoning protects subdivisions from harmful land use encroachments adjacent to and within the subdivision, which would lessen its desirability as a place to live.

Capital Improvements Program

Public improvements are investments made by the community in facilities, which will benefit the Township. Public capital improvements include schools, libraries, park and recreation areas, fire and police stations, Township offices, public water supply, sanitary and storm sewers, streets and highways, and all of the many physical components which go into a balanced community. As such, the Capital Improvements Program (CIP) is an essential part of the Comprehensive Plan. It is the purpose of the Comprehensive Plan to provide the basis within which the CIP can be properly executed. The CIP:

- 1) Enables the proper relationship and coordination between different capital improvement projects ;
- 2) Measures the necessity of individual capital improvement projects; and
- 3) Determines Township's financial capability in any given year to afford these capital improvements.

The CIP establishes a short-range priority schedule of needed public improvements in accordance with budgetary capabilities. This tool should be very exhaustive in scope by assessing future needs and programming public improvements. In projecting the needs of the Township within a CIP, it is necessary to consider the budgetary limitations. The CIP should be planned realistically within budgetary restraints.

The compilation of a Capital Improvements Program is, according to State law, a joint responsibility between the Planning Commission and the elected officials. Specific budgetary actions may become the responsibility of Delhi Township and should be itemized within the CIP document.

The CIP is actually a short-range program, which is utilized to effectuate the Comprehensive Plan in increments of five or six years. It indicates improvements, which will be required and establishes priorities for the most desirable economical sequence to fulfill the Comprehensive Plan objectives; this is the CIP's whole purpose. But, unlike the zoning ordinance and subdivision control ordinance, which are reviewed and updated every five years, the CIP is reviewed and updated every year and projected again for the next five or six year period.

Tri-County Regional Growth “Choices for our Future”

During this Master Plan Update process, the Tri-County Regional Planning Commission was undertaking their own growth plan for the Tri-County Region. **Map 17, Future Land Use Map**, has been reviewed for compatibility with the proposed development plans for the Region. At final completion of this regional project, it is expected that the Master Plan for Delhi Charter Township will be compatible with this plan. Therefore, the implementation of this Township plan will be in synchronization with regional growth expectations.

Township Services Boundary

A public infrastructure boundary is a limit beyond which no public services will be extended. This boundary is provided to limit the amount of development to take place in areas that have been deemed outside of these limits. Any development outside of this boundary will be constructed to provide individual well water and septic systems. These individual systems will comply with the guidelines set forth by the Ingham County Health Department and Drain Commissioner.

The Township may not support development of residential subdivisions or public roadway improvements outside, or south of, the Township Service Boundary.

Implementation of this public infrastructure boundary will be provided through the Township Zoning Ordinance. The ordinance will provide for adequate development densities to this point and rural residential and agricultural densities beyond it. It will also be provided through the Future Land Use Map which will indicate only rural residential and agricultural lands beyond this boundary. Movement of the Township Services Boundary will require an amendment to the Master Plan.

Transitional Zoning

Transitional zoning is an element, which installs density standards from high density commercial to low density residential land uses. This area is implemented to create an area of transition from

the high density to low density. It is used so that hard lines of development are not used throughout the Township. The areas in question will be in places such as the Cedar Street Corridor and other high-density commercial areas.

To implement this the Township will use the Township Zoning Ordinance. Overlay zones will be created to indicate these areas of transition. Future development will be address on a case by case basis to ensure that proper space is given for transition.

Wetlands Protection

In coordination with the Environmentally Sensitive Areas Map, wetlands with significant impacts on the environment will be indicated as to preserve the natural features and habitat of the area. Along with the Environmentally Sensitive Areas Map, the Township Zoning Map and Future Land Use Map will incorporate these areas as to limit the amount of development in these areas. Specific density requirements and infrastructure requirements will be placed in these areas to provide adequate environmental protection.

Farmland Preservation

Farmland preservation standards will be place in areas of significant agricultural and open space importance. To protect agricultural industry for the Township, specific areas with adequate farming soils will be protected from development. A series of standards will be placed in these designated areas through a combined effort in the Township Zoning Ordinance, Future Land Use Map, and through the Public Infrastructure Boundary.

Other elements of preservation will also be implemented, such as cluster development utilizing the Planned Unit Development (P.U.D.) process. This type of development will allow for higher density development in areas deemed as to promote the preservation of open space in those same areas. Also, were applicable, the elements of purchase of development rights (PDR) and transfer of development rights (TDR) will be applied. These elements will assist in the preservation of farmland in areas that have been deemed prime agricultural land.

Commercial Design Standards

Much like the Subdivision Regulations, Commercial Design Standards regulate building size, shape, and façade. It creates more continuity along commercial corridors to instill a sense of place within a community.

Commercial Design Standards are adopted by the Township and reviewed on a case by case basis. Developers are required to submit design drawing of the development proposed. These design submittals are to adhere to the design standards set forth by the Township. If design standards are not met the submittal will be denied and the developer will be required to make the necessary changes before proceeding to construction.

Only through special permission granted by the Township Planning Commission, the Zoning Board of Appeals, or the Township Board of Trustees will building designs not consistent with the design standards be approved.

APPENDIX A: BIBLIOGRAPHY

1.) General

- Township Planning Act 168 of 1959

2.) Population Profile

- Michigan Population Update, Michigan Department of Management and Budget

3.) Economic Profile

- Tri-County Population and Economic Statistics
- Population Change 1980-2000
- Ingham County 2000 Final Census Figures Ranked by Rate of Change 1980-2000
- RED Team - Quality Job Analysis, Regional Economies with statistics from the U.S. Census Bureau (pages 3-14)
- County Agricultural Statistics for Ingham County, Michigan Agricultural Statistics Service
- Rank of Michigan Counties in Agriculture, Michigan Agricultural Statistics Service

4.) Housing Profile

- Delhi Township Building Permit Activity (1980-2001)
- Parcel Counts and Equalized Values for Delhi Charter Township (1982-1997)
- Selected Housing Characteristics: 2000 for Delhi Township, U.S. Census

5.) Community Facilities Profile

- Recreation Plan Priorities List
- Ingham County Road Commission--Status of Road Mileage, January, 1997
- Road Commission Chart--Intersection Collision Diagrams
- Pupil Membership Counts in FTEs from 2/92-2/97 --Holt Public Schools
- Delhi Pump Station Performance 1993 and 1994 Data from the Sewer Master Plan

6.) Natural Features

- Soil Types Included in Soils Map Categories
- Known and Suspected Groundwater Contamination Sites, ICHD Well Permit Program--list and map
- Part 201 Sites List for Delhi Township, MDEQ, Environmental Response Division
- Holt LUST Sites List, MDEQ, Underground Storage Tank Division
 - (a) Figure based on 1994-1995
 - (b) Figures based on 1994-1995

APPENDIX B: MICHIGAN TOWNSHIP PLANNING ACT 168 OF 1959**APPENDIX B: MICHIGAN TOWNSHIP PLANNING ACT 168 OF 1959****TOWNSHIP PLANNING****Act 168 of 1959, as amended**, (including 2001 amendments)

AN ACT to provide for township planning; for the creation, organization, powers and duties of township planning commissions; for the regulation and subdivision of land; and to prescribe penalties and provide remedies.

History: 1959, Act 168, Eff. Mar. 19, 1960 ;--Am. 1998, Act 194, Eff. Mar. 23, 1999; Am. 2001, Act 263, Eff. Jan. 9, 2002. .

The People of the State of Michigan enact:

125.321 Township planning commission; definitions. [M.S.A. 5.2963(101)]

Sec.1. As used in this act:

- (a) "Basic plan" or "plan" means a master plan, general development plan, guide plan, or the plan referred to in 1943 PA 184, MCL 125.271 to 125.310, being the basis on which the zoning plan is developed.
- (b) "Citizen member" means a member of a township planning commission holding no other township office except that a citizen member may be a member of a township zoning board of adjustment or appeals.
- (c) "County board of commissioners" means 1 of the following, as applicable:
 - (i) The county executive in a county organized under 1966 PA 293, MCL 45.501 to 45.521.
 - (ii) In all other counties, 1 of the following:
 - (A) The elected county board of commissioners.
 - (B) A subcommittee of the county board of commissioners if the county board of commissioners delegates its powers and duties under this act to such a subcommittee.
 - (C) The regional planning commission for the region in which the county is located if the county board of commissioners delegates its powers and duties under this act to the regional planning commission.

(d) “Planning commission” means township planning commission

History: 1959, Act 168, Eff. Mar. 19, 1960 –Am. 2001, Act 263, Eff. Jan. 9, 2002..

125.322 Township planning commission; purpose of plans. [M.S.A. 5.2963(102)]

Sec.2. The purpose of plans prepared pursuant to this act shall be 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; to facilitate provision for a system of transportation, sewage disposal, safe and adequate water supply, recreation and other public improvements; 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.

History: 1959, Act 168, Eff. Mar. 19, 1960.

125.323 Township planning commission; creation; referendum; resolution, copies to secretary of state and county or regional planning commission. [M.S.A. 5.2963(103)]

Sec.3.

- (1) The township board of any township may create, by resolution, a township planning commission with power to make, adopt, extend, add to or otherwise amend, and to carry out plans for the unincorporated portions of the township as provided in this act.
- (2) The resolution creating a planning commission shall become effective 60 days after publication in a newspaper having general circulation in a township. Within 60 days following the publication of the resolution by the township board, a petition signed by a number of qualified and registered voters residing in the unincorporated portion of the township equal to not less than 8% of the total vote cast for all candidates for governor, at the last preceding general election at which a governor was elected, may be filed with the township clerk praying therein for the submission of the resolution to the electors residing in the unincorporated portion of the township for their approval or rejection. Upon the filing of the petition, the resolution shall not take effect until approved by a majority of the electors voting thereon at the next regular or special election which allows reasonable time for proper notices and printing of ballots or at any special election called for that purpose. The township board shall provide the manner of submitting such resolution to the electors for their approval or rejection, and determining the results thereof.
- (3) Upon the filing with the township clerk of a petition requesting the township board to adopt a resolution as herein provided, signed by a number of qualified and registered voters residing in the unincorporated area of the township equal to not less than 8% of the total vote cast for all

candidates for governor at the last preceding general election at which a governor was elected, the township board, at its first meeting following such filing shall submit the same to a vote as provided in this section.

- (4) The township clerk shall transmit copies of the resolution to the secretary of state and to the planning commission of the county of which the township is a part, and if there is no county planning commission, to the regional planning commission which is exercising planning jurisdiction over the township, within 10 days after adoption. The secretary of state shall maintain a public record of all resolutions so received.

History: 1959, Act 168, Eff. Mar. 19, 1960 ;--Am. 1962, Act 78, Eff. Mar. 28, 1963.

125.323a Violation of §§ 168.1 to 168.992 applicable to petitions; penalties.

Sec. 3a. A petition under section 3, including the circulation and signing of the petition, is subject to section 488 of the Michigan election law, 1954 PA 116, MCL 168.488. A person who violates a provision of the Michigan election law, 1954 PA 116, MCL 168.1 to 168.992, applicable to a petition described in this section is subject to the penalties prescribed for that violation in the Michigan election law, 1954 PA 116, MCL 168.1 to 168.992.

History: Add. 1998, Act 194, Eff. Mar. 23, 1999.

125.324 Township planning commission; members, qualification, appointment, term, vacancies, compensation, budget; gifts; expenditures. [M.S.A. 5.2963(104)]

Sec.4.

- (1) The planning commission shall consist of not less than 5 nor more than 9 members, who shall be representative of major interests as they exist in the township, such as agriculture, recreation, education, public health, government, commerce, transportation and industry .All members shall be qualified electors and property owners of the township. One member of the township board shall be a member of the planning commission.
- (2) All members of the planning commission shall be appointed by the township supervisor with the approval of the township board. Members may be removed by the township supervisor, after a hearing, with the approval of the township board.
- (3) The term of each member shall be for 3 years, except that of the members first appointed, 1/3 shall serve for 1 year, 1/3 for 2 years and 1/3 for 3 years. A successor shall be appointed not more than 1 month after the term of the preceding commission member has expired. All vacancies for unexpired terms shall be filled for the remainder of such term.
- (4) Members of the planning commission may be compensated for their services as provided by the township board. The planning commission may make and administer regulations relative to compensation for the travel of its members and employees when engaged in the performance of

activities authorized by the township planning commission, including attendance at conferences and meetings. The planning commission shall prepare a detailed budget and submit same to the township board for approval or disapproval. The township board annually may appropriate and make available funds for carrying out the purposes and functions permitted under this act, and may match township funds with federal, state, county or other local government or private grants. The township board may accept and use gifts and grants for planning commission purposes. Money so accepted shall be deposited with the township treasurer in a special nonreverting planning commission fund for expenditure by the planning commission for the purpose designated by the donor. The township treasurer shall draw warrants against the special nonreverting fund only upon vouchers signed by the chairman and secretary of the planning commission and upon orders drawn by the township clerk. The expenditures of the planning commission, exclusive of gifts and grants, shall be within the amounts appropriated by the township board.

History: 1959, Act 168, Eff. Mar. 19, 1960.

125.325 Township planning commission; election of officers; creation of offices and committees; term of officer; appointment of advisory committees; meetings; conducting business at public meeting; notice of meeting; powers of township board; rules; public record; annual report; availability of certain writings to public.
[M.S.A. 5.2963(105)]

Sec.5.

- (1) The planning commission shall elect a chairperson, vice-chairperson, and secretary from its members and shall create and fill other offices or committees as it considers advisable. The term of each officer shall be 1 year. The planning commission may appoint advisory committees outside of its membership.
- (2) The planning commission shall hold not less than 4 regular meetings each year, and by resolution shall determine the time and place of the meetings. A special meeting may be called by 2 members upon written request to the secretary or by the chairperson. The business which the planning commission may perform shall be conducted at a public meeting of the planning commission held in compliance with Act No.267 of the Public Acts of 1976, being sections 15.261 to 15.275 of the Michigan Compiled Laws. Public notice of the time, date, and place of a regular or special meeting shall be given in the manner required by Act No.267 of the Public Acts of 1976 and the secretary shall send written notice of a special meeting to commission members not less than 48 hours in advance of the meeting.

- (3) The township board, upon recommendation of the planning commission, may employ a planning director or other planning personnel, contract for the services of planning and other technicians, and pay or authorize the payment of expenses within the funds budgeted and provided for planning purposes.
- (4) The planning commission shall adopt rules for the transaction of business, and shall keep a public record of its resolutions, transactions, findings, and determinations. It shall make an annual written report to the township board concerning its operations and the status of planning activities, including recommendations regarding actions by the township board related to planning and development. A writing prepared, owned, used, in the possession of, or retained by the planning commission in the performance of an official function shall be made available to the public in compliance with Act No.442 of the Public Acts of 1976, being sections 15.231 to 15.246 of the Michigan Compiled Laws.

History: 1959, Act 168, Eff. Mar. 19, 1960 ;--Am. 1965, Act 97, Ind. Eff. June 28, 1965 ;--Am. 1977, Act 168, Ind. Eff. Nov. 17, 1977.

125.326 Basic plan as guide for development of unincorporated portions of township; adoption; basis; consultations; expert advice and information; technical assistance; adoption of plan for certain geographic area; site plan; authority of planning commission clarified [M.S.A. 5.2963(106)]

Sec.6.

- (1) The township planning commission shall make and approve a basic plan as a guide for the development of unincorporated portions of the township. As a basis for the plan, the township planning commission may do any of the following:
 - (a) Make inquiries, investigations, and surveys of all the resources of the township.
 - (b) Assemble and analyze data and formulate plans for the proper conservation and uses of all resources, including a determination of the extent of probable future need for the most advantageous designation of lands having various use potentials and for services, facilities, and utilities required to equip those lands.
 - (c) Meet with other governmental planning commissions to deliberate.
- (2) The township planning commission may make use of expert advice and information which may be furnished by appropriate federal, state, county, and municipal officials, departments, and agencies having information, maps, and data pertinent to township planning. State, regional, county, and municipal officials, departments, and agencies shall make available public information for the use of township planning commissions and may

furnish such other technical assistance and advice as they may have for planning purposes.

- (3) In addition to the basic plan provided in subsection (1), by a majority vote of the members, the township planning commission may adopt a plan for a geographic area less than the entire unincorporated area of the township if, because of the unique physical characteristics of that area, more intensive planning is necessary for the purposes set forth in section 2. Before adoption of a plan under this subsection, the township planning commission shall hold at least I public hearing on the plan after giving notice as provided in section 8(1).
- (4) After adoption of a plan under this act, a site plan for a property located in the plan area that is required to be submitted under section 16e of the township zoning act, 1943 PA 184, MCL 125.286e, shall comply with the plan adopted under this act.
- (5) The purpose of the 1987 amendments to this section was to clarify the authority of a planning commission, which was implied from the language of this act, but was not specifically set forth in this act.

History: 1959, Act 168, Eff. Mar. 19, 1960 ;--Am. 1987, Act 73, Imd. Eff. June 29, 1987; Am. 2001, Act 263, Eff. Jan. 9, 2002.

125.327 Basic plan; contents. [M.S.A. 5.2963(107)]

Sec.7. The basic plan shall address land use issues and may project 20 years or more into the future. The plan shall include maps, plats, charts and descriptive, explanatory and other related matter and shall show the planning commission's recommendations for the physical development of the unincorporated area of the township. The basic plan shall also include those of the following subjects which reasonably can be considered as pertinent to the future development of the township:

- (a) A land use plan and program, in part consisting of a classification and allocation of land for agriculture, residences, commerce, industry, recreation, ways and grounds, public buildings, schools, soil conservation, forests, woodlots, open space, wildlife refuges, and other uses and purposes.
- (b) The general location, character and extent of streets, roads, highways, railroads, airports, bicycle paths, pedestrian ways, bridges, waterways, and water front developments; flood prevention works, drainage, sanitary sewers and water supply systems, works for preventing pollution, and works for maintaining water levels; and public utilities and structures.
- (c) Recommendations as to the general character, extent, and layout for the redevelopment or rehabilitation of blighted areas; and the removal, relocation, widening, narrowing, vacating, abandonment,

or changes or use or extension of ways, grounds, open spaces, buildings, utilities, or other facilities.

- (d) Recommendations for implementing any of its proposals.

History: 1959, Act 168, Eff. Mar. 19, 1960 --Am. 2001, Act 263, Eff. Jan. 9,2002.

125.327a Coordinated Planning Notices. [M.S.A. 5.2963(107a)]

Sec.7a.

- (1) A basic plan shall be adopted under the procedures set forth in this section and sections 7b and 8.
- (2) Before preparing a plan, a township planning commission shall mail by first-class mail a notice, explaining that the planning commission intends to prepare a plan and requesting the recipient's cooperation and comment, to all of the following:
 - (a) The planning commission, or if there is no planning commission, the legislative body, of each township, city, or village located within or contiguous to the township.
 - (b) The regional planning commission for the region in which the township is located, if there is no county planning commission for the county where the township is located. If there is a county planning commission for the county where the township is located, the township planning commission may consult with the regional planning commission but is not required to do so.
 - (c) The county planning commission, or if there is no county planning commission, the county board of commissioners, for the county in which the township is located.
 - (d) Each public utility company and railroad company owning or operating a public utility or railroad within the township, and any government entity, that registers its name and mailing address for this purpose with the township planning commission.
- (3) The notice to an entity under subsection (2) may request permission for the township or county, as applicable, to submit electronically any information required to be submitted to that entity under section 7b or 8. If the entity to which the notice is sent grants this permission, information submitted to or by that entity under section 7b or 8 may be submitted electronically. Otherwise, such information shall be submitted in writing by first-class mail or personal delivery.

History: Add 2001, Act 263, Eff. Jan. 9,2002.

12S.327b Plan Adoption, Coordinated Planning Procedure. [M.S.A. 5.2963(107b)]

Sec.7b.

- (1) A plan may be adopted as a whole or by successive parts corresponding with major geographical areas of the township or with functional subject matter areas of the plan.
- (2) After preparing a proposed plan, the township planning commission shall submit the proposed plan to the township board for review and comment.
- (3) If the township board approves the distribution of the proposed plan, it shall notify the secretary of the planning commission and the secretary of the township planning commission shall submit a copy of the proposed plan, for review and comment, to all of the following:
 - (a) The planning commission, or if there is no planning commission, the legislative body, of each city, village, or township located within or contiguous to the township.
 - (b) The regional planning commission, if any, for the region in which the township is located, if there is no county planning commission for the county in which the township is located. If there is a county planning commission for the county in which the township is located, the secretary of the township planning commission may submit a copy of the proposed plan to the regional planning commission but is not required to do so.
 - (c) The county planning commission, or if there is no county planning commission, the county board of commissioners, for the county in which the township is located. The secretary of the township planning commission shall concurrently submit to the county planning commission or, if there is no county planning commission, the county board of commissioners, a statement, signed by the secretary, that the requirements of subdivisions (a) and (b) have been met. The statement shall include the name and address of each planning commission or legislative body to which a copy of the proposed plan was submitted under subdivision (a) or (b) and the date of submittal.
 - (d) Each public utility company and railroad company owning or operating a public utility or railroad within the township, and any government entity, that registers its name and address for this purpose with the secretary of the township planning commission. An entity that, pursuant to this subdivision, receives a copy of a proposed plan, or of a plan as provided in section 8(5), shall

reimburse the township for any copying and postage costs thereby incurred by the township.

- (4) An entity described in subsection (3Xa), (b), or (d) may submit comments on the proposed plan to the township planning commission within 65 days after the proposed plan was submitted to that entity under subsection (3). A planning commission or legislative body described in subsection (3)(a) or (b) shall concurrently submit a copy of the comments to the county planning commission, or if there is no county planning commission, the county board of commissioners, for the county in which the township proposing the plan is located.
- (5) Not less than 75 days or more than 95 days after the date the proposed plan was submitted to the county planning commission or the county board of commissioners under subsection (3), the county planning commission or the county board of commissioners, respectively, shall submit to the township planning commission its comments on the proposed basic plan. The comments shall include, but need not be limited to, both of the following, as applicable:
 - (a) A statement whether the county planning commission or county board of commissioners, after considering any comments received under subsection (4), considers the proposed plan to be inconsistent with the plan of any city, village, township, or region described in subsection (3)(a) or (b).
 - (b) If the county has a county plan, a statement whether the county planning commission considers the proposed basic plan to be inconsistent with the county plan.
- (6) The statements provided for in subsection (5)(a) and (b) are advisory only.

History: Add 200 1, Act 263, Eff. Jan. 9, 2002.

125.328 Basic plan; adoption procedure, approval by county planning commission.
 [M.S.A. 5.2963(108)]

Sec.8.

- (1) Before approving a proposed basic plan, the township planning commission shall hold a public hearing on the proposed plan. The hearing shall be held after the expiration of the deadline for comment under section 7b(5). The township planning commission shall publish notice of the hearing twice in a newspaper of general circulation in the township. The first publication shall be not more than 30 days or less than 20 days before the date of the hearing. The second publication shall be not more than 8 days before the date of the hearing.

- (2) At or after the hearing under subsection (1), the township planning commission may approve the proposed plan by majority vote of its membership. Following approval of the proposed plan by the township planning commission, the secretary of the planning commission shall submit a copy of the proposed plan to the township board.
- (3) Approval of the plan by the planning commission under subsection (2) is the final step for adoption of the plan, unless the township board by resolution has asserted the right to approve or reject the plan. In that case, after approval of the plan by the planning commission, the township board shall approve or reject the plan.
- (4) If the township board rejects the proposed plan, the township board shall submit to the planning commission a statement of its objections to the proposed plan. The planning commission shall consider the township board's objections and revise the proposed plan so as to address those objections. The procedures provided in subsections (1) to (3) and this subsection shall be repeated until a proposed plan is approved by the township board.
- (5) The plan is effective upon final adoption. Upon final adoption of the plan, copies of the adopted plan shall be submitted in the same manner as provided for submitting copies of the proposed plan under section 7b(3).

History: 1959, Act 168, Eff. Mar. 19, 1960 --Am. 2001, Act 263, Eff. Jan. 9, 2002. .

125.329 Basic plan; hearing; publication of notice; transmission of copies following adoption.

Sec.9.

- (1) An extension, addition, revision, or other amendment to a basic plan shall be adopted under the same procedure as a plan or a successive part of a plan under sections 7a, 7b, and 8. However, for an amendment other than a revision of the plan, both of the following apply:
 - (a) The 65-day period otherwise provided for in section 7b(4) shall be 40 days.
 - (b) The 75- to 95-day period otherwise provided for in section 7b(5) shall be 55 to 75 days.
- (2) At least every 5 years after adoption of the plan, the planning commission shall review the plan and determine whether to commence the procedure to amend the plan or adopt a new plan.
- (3) Until 1 year after the effective date of the 2001 amendments that added this subsection, a township may adopt a plan or an extension, addition, revision, or other amendment to a plan under the procedures provided for

by this act immediately before the effective date of the 2001 amendments that added this subsection.

- (4) The planning commission shall promote public understanding of and interest in the plan, shall publish and distribute copies of the plan and of any report, and may employ such other means of publicity and education as it determines necessary.

History: 1959, Act 168, Eff. Mar. 19, 1960 ;--Am. 1999, Act 197, Ind. Eff. Dec. 20, 1999; Am. 2001, Act 263, Eff. Jan. 9, 2002. .

125.330 Basic plan; approval of public way, space, building or structure. [M.S.A. 5.2963(110)]

Sec.10.

- (1) Whenever the planning commission has adopted the basic plan of the township of 1 or more major sections or districts thereof, no street, square, park or other public way, ground or open space, or public building or structure, shall be constructed or authorized in the township or in the planned section and district until the location, character and extent thereof shall have been submitted to and approved by the planning commission. The planning commission shall communicate its reasons for approval or disapproval to the township board, which shall have the power to overrule the planning commission by a recorded vote of not less than a majority of its entire membership. If the public way, ground, space, building, structure or utility is one, the authorization or financing of which does not, under the law governing same, fall within the province of the township board, then the submission to the planning commission shall be by the board, commission or body having jurisdiction, and the planning commission's disapproval may be overruled by resolution of the board, commission or body by a vote of not less than a majority of its membership. The failure of the planning commission to act within 60 days after the official submission to the planning commission shall be deemed approval.

- (2) A township may adopt a capital improvement program.

History: 1959, Act 168, Eff. Mar. 19, 1960 ;--Am. 1960, Act 10, Ind. Eff. Mar. 30, 1960; Am. 2001, Act 263, Eff. Jan. 9, 2002.

125.331 Transfer of powers and duties for zoning boards to planning commission; postponement; filing zoning ordinances and amendments. [M.S.A. 5.2963(111)]

Sec.11. The township board, by resolution, may transfer to the planning commission all powers and duties provided by the township rural zoning act, Act No.184 of the Public Acts of 1943, as amended, being sections 125.271 to 125.301 of the Michigan Compiled Laws, for zoning boards created under that act. If the existing zoning board is nearing the completion of its zoning plan, the township board shall postpone the transfer of the zoning board's powers and duties until the completion of the zoning plan, but the postponement shall not exceed 1 year. In a county in which a county planning commission is established, the township planning commission shall file with the county

planning commission a copy of the township zoning ordinances and any amendments to the ordinances.

History: 1959, Act 168, Eff. Mar. 19, 1960 ;--Am. 1966, Act 193, Eff. Mar. 10, 1967 ;--Am. 1980, Act 228, Ind Eff. July 20, 1980 ;--Am. 1990, Act 142, Ind Eff. June 27, 1990 .

125.332 Approval of plats. [M.S.A. 5.2963(112)]

Sec.12. The township board shall refer plats or other matters relating to land development to the planning commission before final action thereon by the township board and may request the planning commission to recommend regulations governing the subdivision of land. The recommendations may provide for the procedures of submittal, including recommendations for submitting a preliminary subdivision design, the standards of design and the physical improvements that may be required.

History: 1959, Act 168, Eff. Mar. 19, 1960.

125.333 Inconsistent acts. [M.S.A. 5.2963(113)]

Sec.13. Insofar as the provisions of this act are inconsistent with the provisions of any other law, the provisions of this act shall be controlling except that this act shall not supersede Act No.240 of the Public Acts of 1937, as amended, being sections 338.551 to 338.576 of the Compiled Laws of 1948, as to work required to be performed by registered architects, professional engineers or land surveyors. This act shall not preclude the creation or continuance of a township planning commission created pursuant to Act No.285 of the Public Acts of 1931, as amended, being sections 125.31 to 125.45 of the Compiled Laws of 1948.

History: 1959, Act 168, Eff. Mar. 19, 1960 ;--Am. 1963, Act 91, Eff. Sept. 6, 1963.

APPENDIX C: GLOSSARY OF TERMS UTILIZED IN THE PLANNING PROCESS

To assist the reader in utilizing this planning document, the following commonly applied planning terms have been generally defined.

Capital Improvements Program - A locally adopted document, which prioritizes public investment for land, infrastructure, equipment, and buildings. This document is considered one of the three major implementing tools (along with the zoning ordinance and the subdivision regulations) of the Master Plan.

Master Plan - Also called the master plan, is a document composed of maps and text which describes the present and future residential, business, industrial, community facilities, circulation and physical characteristics of the Township. It sets forth policy guidelines and an agenda for future development and improvement of the community.

Development Objectives - Development objectives are long range statements of specific activities, which must be implemented in order to achieve corresponding policy statements.

Housing Density - A measure of the number of housing units within a specified geographic land area (typically based on acreage).

Goal Statement- Narrower and often specific. Goals are statements of intention, which are more specific than Visions. Goals too may encompass an entire program, a singular area, or multiple areas.

Gross Density - The ratio between a specified number of housing units and an acre of land inclusive of all other land uses including public and private streets. A modified gross density may include all other land uses except public and private streets and unbuildable land areas such as regulated wetlands or unsuitable soils or grades.

Net Density - The ratio between a specified number of housing units and an acre of land which is intended for residential purposes exclusive of public/common parks, public and private roads, and non-residential land uses.

Low Density Housing - An area of Delhi Township having parcels which contain between 15,000 square feet and 39,999 square feet of land area. Maximum density may vary from 1.0 units per acre to 2.9 units per acre, depending on the amount of land area required for public rights-of-way.

Medium Density Housing - An area of Delhi Township having parcels which contain between 10,000 and 14,999 square feet of land area. Maximum density may vary from 3.4 units per acre to 4.3 units per acre, depending on the amount of land area required for public rights-of-way.

High Density Housing - An area of Delhi Township having parcels which contain less than 10,000 square feet of land area. Maximum density may vary from 4.3 units per acre to 8.6 units per acre, depending on the amount of land area required for public rights-of-way and the type of housing units constructed.

Housing Units - A building or portion thereof, designed for occupancy by an individual or family for residential purposes and having kitchen and bathroom facilities.

Multiple Family Housing - A single building or series of buildings with abutting walls containing more than two residential dwelling units.

Neighborhood Design Character - Those features of an area which are unique to it or are particularly identifiable such as architecture, street layouts, landscaping, open space, housing style or other similar characteristics.

Planned Development (PD)- A type of development characterized by comprehensive planning for the project as a whole, clustering of structures, a mixture of housing types and a variety of non-residential uses.

Platting - The partitioning or dividing of a parcel of land which is recorded, mapped and charted with the County Plat Board in preparation for development. Replatting is a process of changing the boundaries of a recorded plat.

Open Space Option – Designed as a special use overlay option to provide for an environmental choice for Delhi Charter Township by encouraging creativity and flexibility of low to medium density residential design, diversity of building types, open space arrangements and environmental preservation. (In accordance with Public Act 177 of 2001, the Open Space Preservation Act)

State Equalized Valuation - This is the value of real property (real estate) as determined by the state of Michigan for all land and development within the local jurisdictions and is the basis for local tax assessment of land value.

Street/Road - A public/private way or right of way used for the movement of people and goods that provides vehicular and pedestrian access to abutting properties.

Subdivision - The division of a parcel of land into five (5) or more lots for purpose of ownership transfer, building development, or dedication of a new street.

Urban Design - The visual and aesthetic appearance or image of the buildings, streets, light fixtures, open spaces and the general environment as perceived by persons living, working or passing through an area of the community. It includes the identity, distinction and personality given to physical features and geographic areas such as historic landmarks, architectural styling, natural foliage and similar aesthetic amenities.

Vision Statement – Refers to the widest level, and are general statements that provide direction or intent to planning action. Visions are usually written in amorphous terms (i.e. encourage, promote, recognize, appreciate, etc.) and are rarely measurable.

Zoning - The division of the community into districts to regulate the use of land and structures create order for the physical development of land, and to minimize potential conflicts.

APPENDIX D: ENVIRONMENTAL REVIEW CHECKLIST

**STATE & COUNTY ENVIRONMENTAL PERMITS CHECKLIST
FOR USE IN INGHAM COUNTY COMMUNITIES**

Name of Business: _____

Mailing Address: _____

Telephone: _____ Fax: _____

Type of Business: _____

Facility Owner or Manager: _____

Date: _____ Signature: _____

Note: For assistance with permits and approvals from the Michigan Department of Environmental Quality, including permit coordination among MDEQ divisions, contact the Permit Coordinator, 517/335-4235.

Circle (Y/N) the items that may pertain to your project or facility; then contact the office(s) listed to determine specific requirements. Return a copy of this checklist to the municipality as part of your site plan submittal -- even if state and county approvals have not yet been obtained. An updated copy should be submitted prior to occupancy.

This list includes the most common permits and approvals related to waste, water quality, and air quality. Other permits and approvals, including local approvals, may also be needed.

1. Y N Will the project involve the discharge of any type of wastewater to a storm sewer, drain, lake, stream, wetland or other surface water? **Contact:** MI Dept. of Environmental Quality, Surface Water Quality Division, Permits Section: 517/373-8088.
2. Y N Will the project involve the direct or indirect discharge of waste, waste effluent, wastewater, pollutants, and/or cooling water into the groundwater or on the ground? **Contact:** MI Dept. of Environmental Quality, Waste Management Division, Groundwater Program Section: 517/373-8148.
3. Y N Will the project involve construction or alteration of any sewage collection or treatment facility? *For **facilities discharging to surface waters**, contact the MI Dept of Environmental Quality, Surface Water Quality Division, District Office: 517/625-4647. For **facilities discharging to groundwater**, contact the MI Dept. of Environmental Quality, Waste Management Division, District Office: 517/625-5515.*
4. Y N Will the project or facility store or use chemicals, petroleum products, or salt? Depending on the type of substance, secondary containment and a Pollution Incident Prevention Plan (PIPP) may be required. **Contact:** MI Dept. of Environmental Quality, Waste Management Division, District Office: 517/625-5515.
5. Y N Will the project involve the installation, operation, or removal of an underground or aboveground storage tank containing a petroleum product or a hazardous substance? **Contact:** MI Dept. of Environmental Quality, Storage Tank Division: 517/373-8168.
6. Y N Will the project involve liquified petroleum gas storage tanks or container filling locations? **Contact:** MI Dept. of Environmental Quality, Storage Tank Division: 517/373-8168.

7. Y N Does the project involve the installation of a compressed natural gas dispensing station with storage? **Contact:** MI Dept. of Environmental Quality, Storage Tank Division: 517/373-8168.
8. Y N Will the project involve the generation of hazardous waste? **Contact:** MI Dept. of Environmental Quality, Waste Management Division, District Office: 517/625-5515.
9. Y N Will the project involve the on-site treatment, storage or disposal of hazardous waste? **Contact:** MI Dept. of Environmental Quality, Waste Management Division, Hazardous Waste Permit Unit: 517/373-9875.
10. Y N Will the project involve the transport of hazardous waste or non-hazardous liquid industrial waste? **Contact:** MI Dept. of Environmental Quality, Waste Management Division, Hazardous Waste Program Section: 517/373-9875.
11. Y N Will the project involve landfilling, transferring or processing solid non-hazardous wastes on-site? **Contact:** MI Dept. of Environmental Quality, Waste Management Division; District Office: 517/625-5515.
12. Y N Will the project involve the installation, construction, reconstruction, relocation, or alteration of any process or process equipment (including air pollution control equipment) which has the potential to emit air contaminants? **Contact:** MI Dept. of Environmental Quality, Air Quality Division, Permit Section: 517/373-7023.
13. Y N Will the project or facility involve the storage, mixing or distribution of pesticides or fertilizers in bulk quantities? **Contact:** MI Dept. of Agriculture, Pesticide and Plant Pest Management Division: 517/373-1087.
14. Y N Will the project involve any man-made change in the natural cover or topography of land, including cut and fill activities which may contribute to soil erosion and sedimentation? Will the earth change disturb an area of one acre or more, or occur within 500 feet of a lake or stream? If the answer to both of these questions is yes, a soil erosion and sedimentation control permit is required. **Contact:** Ingham County Drain Commissioner at 517/676-8395 for all communities in Ingham County except for: Lansing call Public Service Dept. at 517/483-4455, and East Lansing call Public Works Dept. at 517/337-1731. In addition, a permit may be required from the DEQ. **Contact:** MI Dept. of Environmental Quality, Land & Water Management Division, Soil Erosion & Sedimentation: 517/373-3178.
15. Y N Will the project involve dredging, filling, or construction in, across or under (1) a river, stream, creek, ditch, drain, lake, pond or swamp? (2) wetlands? (3) floodplain (area that may have or ever had either standing or flowing water)? **Contact:** MI Dept. Environmental Quality, Land and Water Management Division, Permit Consolidation Unit, 517/373-9244.
16. Y N Will the project involve any dredging proposed within 500 feet of a lake, river, stream, creek or ditch? **Contact:** MI Dept. Environmental Quality, Land and Water Management Division, Permit Consolidation Unit: 517/373-9244.
17. Y N Will an on-site wastewater treatment system or septic system be installed?
- For subsurface sanitary sewage disposal in quantities of 10,000 gallons per day or less:** Ingham County Health Dept., Environmental Health Division, 517/887-4312. For any subsurface discharge of sanitary sewage in quantities equal to or greater than 10,000 gallons per day – **Contact:** MI Dept. of Environmental Quality, Waste Management Division: 517/373-8148.
- For subsurface disposal of sanitary sewage in quantities of 6,000 to 10,000 gallons per day:** In addition to obtaining a construction permit from the Ingham County Health Department, submit a state wastewater discharge notification form. Flow monitoring and reporting are required – **Contact:** MI Dept. of Environmental Quality, Waste Management Division, Groundwater Permits Unit: 517/373-8148.

For industrial or commercial wastewater (other than sanitary sewage) in any quantity
- Contact:- *MI Dept. of Environmental Quality, Waste Management Division, Groundwater Permits Unit: 517/373-8148.*

18. Y N Will the project involve the construction of a water supply well or the extension of a water supply service from an existing water system? **Contact:** *MI Dept. Environmental Quality, Drinking Water Program, District office 517/625-5515; and Ingham County Health Dept., Environmental Health Division: 517/887-4312.*
19. Y N Are there out-of-service wells, abandoned wells, or cisterns on the site? (drinking water, irrigation, & monitoring wells). **Contact:** *Ingham County Health Dept., Environmental Health Division: 517-887-4312.*
20. Y N Will the project involve a subdivision or site condominium project utilizing individual on-site subsurface disposal systems or individual wells? **Contact:** *Ingham County Health Dept., Environmental Health Division: 517/887-4312.*
21. Y N Will the project involve the on-site storage of sanitary sewage prior to transport and disposal off-site (pump and haul)? **Contact:** *MI Dept. of Environmental Quality, Waste Management Division, Groundwater Program Section: 517/373-8148.*
22. Y N Has the property or facility ever been subject to a remedial action, limited closure, or other environmental cleanup response under Part 201, Natural Resources and Environmental Protection Act (NREPA)? Is the property currently subject to a response action? Has a Baseline Environmental Assessment (BEA) been completed for the property? **Contact:** *MI Dept. of Environmental Quality, Environmental Response Division: 517/373-9893 and/or MI Dept. of Environmental Quality, Storage Tank Division: 517/373-8168.*

NOTE: The general telephone number for the Shiawassee DEQ District office (which covers Ingham, Eaton and Clinton Counties, among others) is 517-625-5515. The office is located at 10650 Bennett Drive, Morrice, MI 48857-9792. The fax number is 517-625-5000.

July 12, 2000
 Based on April 17, 2000 model