

Chapter 1

Section A

Executive Summary

This document, the Crystal Township Land Use Plan, is intended to serve as a guide for the future Township actions and decisions pertaining to land use throughout its jurisdiction. **It is not intended to establish precise boundaries for different types of land uses. Its function is to guide growth using long-range goals and objectives and to generally indicate the location of land uses.** This plan represents the strong commitment of Crystal Township to retain and strengthen the local quality of life. This Plan has provided opportunities for all citizens to play a key role in determining their community's future by incorporating their recommendations and comments. This plan should be considered as the foundation for the regulations to be contained in the zoning ordinance, when one is completed. It is *strongly* recommended that this plan be reviewed annually and updated accordingly.

The fundamental purpose of the Plan is to enable Crystal Township to establish a future direction for the community's physical development. Through a thorough planning process, Crystal Township believes that it will be better prepared to proactively respond to changes and challenges through means in its best interest. The Plan shall serve as a **guide** for the amendment of applicable Township ordinances governing land use.

This plan is enabled by Michigan law, but does not carry the power of statutory law or ordinance. Its principles are derived from the Township Planning Act (Public Act 168 of 1959), which states, in part, that:

Section 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.

Section 3. (125.326). 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.

Once prepared, adopted, and maintained, this Plan will serve as an *advisory guide* for the physical conservation of certain areas and for the development of others.

The decisions and actions of a community must be made with the knowledge that their affect will be felt beyond the community's immediate boundaries. When making land use decisions, it is not difficult to focus decisions around individuals and current situations. However, it is imperative that decisions be based upon the community's vision for the future. This will ensure that the decisions made will consider the impact on the Township, as a whole, for years to come.

This plan is a comprehensive and continuing process. The purpose is to help public and private decision-makers in Crystal Township arrive at decisions that promote the common good of society. This document outlines the preferred future for Crystal Township. The plan is appropriately general, recognizing that planning for the future is a delicate blend of art and science and that sufficient flexibility will be needed to respond to the challenges Crystal Township faces in the future.

Because of the constant changes in social, economic, and activity structures, the Plan must be maintained through periodic review and revision so that it reflects the needs of Crystal Township while continuing to maintain the Township's established long-range goals. The plan will be successful to the extent that it:

- Reflects the needs and desires of the citizens of Crystal Township;
- Realistically interprets and reflects the conditions, trends, and the economic and or social pressures that are brought about by change; and

- ❑ Encourages agreement and support among the various public agencies, developers, and citizens of the Township toward achieving common goals.

Section B

The Purpose of the Plan

When Crystal Township began the plan preparation process, it had several objectives, including:

- First, it was important to achieve an understanding of the likely future trends in the community and its surrounding areas.
- Secondly, Crystal Township sought to clearly define the community priorities with regard to growth, development, and land use.
- Thirdly, the planning process was seen as an opportunity to build and strengthen a community consensus about the future land use patterns in the Township.
- Finally, Crystal Township sought to address specific issues, land use challenges, and to develop realistic and effective mechanisms to achieve the plan's objectives.

The planning process strives to combine the needs and desires of the citizenry with the land's suitability and capability for sustaining those uses, balanced with the municipality's ability and desire to provide public services throughout its jurisdiction. Such planning will minimize the potential for land use conflicts and inappropriate uses of land, for the betterment of all residents.

This Plan accomplishes these objectives. More specifically this plan will serve Crystal Township in the following ways:

1. The plan provides a means of integrating proposals that look years ahead to meet future needs regarding general and major aspects of the physical conservation and development throughout the Township.
2. It serves as the official, advisory policy statement for encouraging orderly and efficient use of the land for residences, agriculture, businesses, and industry, as well as, coordinating these uses of land with each other and with other necessary public facilities and services.
3. It provides a means for private organizations and individuals to determine how they may relate their building and development projects and policies to official Township planning policies.
4. It offers a means of relating the plans of Crystal Township to the plans of other communities whose borders are adjacent and abutting those of the Township. This is important, as newly adopted legislation is mandating that future updates, amendments, and/or redesign of a community's plan, is required to be reviewed by those municipal/jurisdictional boundaries affected, the Regional Planning Commission Agency (if applicable), and the County.
5. It provides means in which to improve the physical environment of the community as a setting for human activities; to make it more functional, beautiful, healthful, interesting, and efficient.
6. It offers opportunities for promotion of the interest of the community at large, rather than the interests of individuals or special groups with in the community.
7. It allows for injection of long-range considerations into the determination of short-range actions.
8. It brings professional and technical knowledge to bear on the making of political decisions concerning the physical development of the community.

Section C

Plan Formulation

The planning process involved five inter-related phases:

- Data analysis- Up to Date Appraisal: Involves a summary review and analysis of available data gathered from local and regional sources. During the first phase, demographic, economic, and land use data was gathered to support the Plan. The purpose of this effort was to develop a comprehensive impression of the patterns of growth and the challenges that will impact the Township, as growth and development continue.
- Plan Preparation- Analysis of the Issues and Definition of the Preferred Future: Involves drawing together the input and preparing a Land Use Plan. This process included a special public meeting to gather general community input in which to receive comments from the public.
- Goals and Objectives- Designing a Policy Basis: Establishes a policy basis for the Township's planning and land use regulations that are consistent with the desires of the community.
- Implementation Strategies: Provides techniques applicable for implementation of the Crystal Township Land Use Plan.
- Recommendations: Provides recommendations and specific strategies, tools, and techniques to carry out the Plan. At the conclusion of the final phase, the Planning Commission held a public hearing on the plan and followed this by voting for adoption of the Plan.

Section D

The Plan's Relationship with Zoning

While most understand that there is a relationship between a land use plan (with its land use map) and a zoning ordinance (with its zoning map), it is often misinterpreted and used inappropriately. The relationship is a very important one, ***because you can not utilize one without having the other***. A formal definition of a land use plan is simply that it is a policy document in which the zoning ordinance(s) are a regulatory tool that is used to implement the goals and objectives of the land use plan. ***In other words, the land use plan and map are designed to provide the community with a glimpse of where they desire their community to head, and a zoning ordinance and map provides the means to arrive at this point.***

The primary difference between a future land use map and a zoning ordinance is timing. The land use map shows the intended use of land at the end of the planning period, which is usually 10 or 20 years in the future; a zoning map shows land as it is intended to be used today. Thus, the two maps will likely not be identical.

The policy and regulation relationship between a land use plan and a zoning ordinance is a familiar one. Changes to a zoning ordinance or zoning map are the primary tools available to change the regulations affecting land or the types of use land may be used for. The land use plan and map are used to guide the process of changing land uses. In other words, the future land use plan and map will be utilized to regulate what zoning changes will occur and where they will occur. For example, rezoning requests are often required to be consistent with the future land use plan's use designation as they identify the community's desires for their future.

Effective December 15th, 2002, it will be mandatory that all municipalities and counties have a Land Use Plan in effect. Also, any amendments to a community's plan must be submitted, for review and comment, to all bordering jurisdictions and the acting regional planning commission, if applicable. The comments derived from those then must be submitted to the County where they are reviewed and a final comment is made on the changes to the plan and is then submitted back to the originating municipality. While

presently these comments have no regulatory implications, it is the first step in working towards a collaborative effort amongst bordering municipalities encouraging similar land uses on adjacent parcels.

Section E

The Planning Process

In the winter of 2002, Crystal Township contracted with the West Michigan Shoreline Regional Development Commission to assist in the development of a Land Use Plan. Every effort has been made to present information that is both current and accurate. The Crystal Township Board, the Crystal Township Planning Commission, and the West Michigan Shoreline Regional Development Commission shall not be held liable for any errors and/or omissions that are related to this Plan. This Plan is a *general* document; therefore, a thorough investigation with original research materials should be undertaken before proceeding with any specific implementation decisions.

Citizen input is paramount in identifying and discerning the issues facing Township residents as a whole. Therefore, all citizens were invited and encouraged to take part, as well as the bordering municipalities. The opportunity for input and comment was provided through such modes as a township wide survey to determine what community members perceived as the goals and the objectives of the plan, Planning Commission meetings, a special meeting held by the Planning Commission, and a public hearing. Notices of these meetings were published in the Oceana Herald Journal, the local newspaper, as well as announced through signs posted in Crystal Township and the Township Hall.

The goals and objectives set forth in this Plan for Crystal Township should be reviewed on a regular basis. When appropriate, the Land Use Plan should be modified to reflect changes of a physical nature or those of general public sentiment. By new legislation, the Land Use Plan must be reviewed, at a minimum, every *five years* to determine that the Land Use Plan is consistent in maintaining the community's goals. The planning process strives to combine the needs and desires of the citizenry with the land's suitability and capability for sustaining those uses. It also balances with the Township's ability and desire to provide public services throughout its jurisdiction.

Chapter 2

COMMUNITY PROFILE

A. Geographic Context

Crystal Township is a rural community that is located in northcentral and northeastern Oceana County. Crystal Township is approximately 7 miles northeast of the City of Hart (county seat). Muskegon, Newaygo, and Mason Counties and Lake Michigan border Oceana County on the south, east, north, and west respectively. Riverton, Eden, Logan, Colfax, Leavitt, Elbridge, Hart, and Weare Townships' border Crystal Township on the north, east, south, and west, respectively. The Township's land area is 6 square miles with a year 2012 population of 838 persons.

B. Transportation

Crystal Township is 10 miles east of the US-31 expressway, a major north/south route that runs along Michigan's western lakeshore. The Township is also approximately 45 miles west of the US-131 expressway, another major north/south route that runs from Cadillac to Kalamazoo, approximately 23 miles west of M-37, and approximately 12 miles to the south of US-10.

Another form of transportation accessible to the Township is the Muskegon County International Airport, which is approximately 45 miles to the south in Muskegon County.

C. History

The formal organization of Oceana County took place in 1855 and was soon named by early settlers who were reminded of the ocean by Lake Michigan. Crystal Township was included in Pentwater Township, which was organized in 1855. That same year, the Federal Government and 54 Indian chiefs signed a

treaty by which the Indians gave up their lands near Grand Rapids and Ionia for new lands and \$54,000 in money and goods. The Indians agreed to select a Reservation and choose a region 24 miles north to south and 6 miles wide. This is now the townships of Crystal and Elbridge in Oceana County, and Eden and Custer in Mason County.

Six years later, in 1861, Weare Township was organized to include Crystal and Colfax Townships. J.H. Gay and his family were the only white settlers here until the fall of 1863, when Dr. James J. Kittridge and his family came. In the winter of 1865, J.H. Gay wanted to organize a new township. He made an effort to separate from Weare Township. Being that there were not enough legal voters, he contracted the Government to deed land in Section Ten to George Lammon, Charles Willett and A.O. Aldrich. Residents of Elbridge and Weare objected to the plan of a new township. Mr. Gay hired Charles Dean, a popular Pentwater lawyer, and won the case. Dean was the first resident attorney in the county. Mrs. Gay chose the name Crystal for the crystal streams.

In July of 1865, Crystal Township was ordered organized, taking from Weare what is now Crystal and Colfax Townships. The first township meeting was held in April 1866, in the Government blacksmith shop. The first supervisor was Dr. Kittridge, the first clerk was David K. Foster, and the first treasurer was J.H. Gay.

The Township was platted in 1875. The population by year was:

- 1870 - 181 persons
- 1880 - 561 persons
- 1890 - 750 persons
- 1900 - 665 persons
- 1910 - 789 persons
- 1920 - 648 persons
- 1930 - 506 persons
- 1940 - 557 persons
- 1950 - 451 persons
- 1960 - 483 persons
- 1970 - 452 persons
- 2012 - 838 persons

The valuation in 1876 was \$68,088 and in 1970 was \$930,000. The fire department was organized in 1954 with Bill Smith as the first chief.

D. Natural Resources

Natural resources and features are important factors in the planning process because they aid in determining the land's suitability for different types of development, and because they significantly contribute to a positive quality of life for residents. If growth is not appropriately controlled and site planning is not monitored, natural features can be lost, and the ecological functions they perform can be destroyed or altered to such an extent as to severely retard their functioning capabilities.

i. Topography

Crystal Township's topography is level to rolling and contains some very steep slopes and ravines, with a high water table and a combination of heavy areas of sand and heavy clay soil. The high water table and heavy clay soil creates the potential for aquifer contamination and repeated septic tank failures. While there are a larger number of wells in Crystal Township, the Township does not have an aquifer location at the present time. Wells in the Township average between 50 and 200 feet deep. Potential problems exist from contamination by septic systems in the Township, where shallow unprotected natural aquifers exist as well. These are located near the Pentwater River and include its many creeks, streams, and tributaries, where the density of residential development has increased.

ii. Water Features

Scattered wetlands comprise a large portion of the Township's total area. Other environmentally sensitive areas include those along the Pentwater River and Crystal Creek, where septic system malfunctions could create excess amounts of nutrients and contaminants in the river, as well as the many tributaries that are within the Township. It is not unusual for residents to have parcels that contain wetlands or are part of a larger wetland area.

a. *Wetlands*

Wetlands should be given serious attention in the Land Use Plan process and in all future development decisions, due to the importance of preserving their natural functions. Wetlands also impact planning because they are protected under the Goemare-Anderson Wetland Protection Act (Act 203 of the Public Acts of 1979) which restricts and/or prohibits development in areas of significant wetlands.

Wetlands are an important water resource. Wetlands are areas where water is present, either in, or on the land. They are defined by the interaction-taking place between land and water, and more specifically, by the biological activity which takes place. Wetlands provide needed habitat for many organisms and serve as a filter for water as it seeps into the groundwater supply. This filtering process includes the removing of many pollutants from surface water, a vital function in maintaining a healthy water supply. The filtered water then recharges groundwater supplies. The main wetland areas in Crystal Township are those along the Pentwater River and Crystal Lake. The areas surrounding the river and the lake are environmentally sensitive areas that need to be protected. Small pockets of wetlands are scattered throughout the Township, most notably near existing lakes, rivers, and creeks. Those areas have a serious impact on the condition of the groundwater in the Township.

b. *Groundwater*

Township residents depend upon groundwater as their only source of potable water. Therefore, the protection of groundwater and surface water features should be an environmental priority for Crystal Township. The potential for groundwater contamination depends upon the type of soil present. For example, sand is very permeable, and thus allows for a greater amount of infiltration of surface water into the groundwater supply, whereas clay is very impermeable and retards contamination. However, if clay is near enough to the surface, it will cause water to pond or runoff to more permeable soils.

Several major sources for groundwater contamination exist. Waste products from a conventional system or land disposal system for municipal waste, and even private residential septic systems can carry harmful pollutants into the water supply. Other contributors to groundwater contamination include indiscriminate dumping and junk storage, farm wastes (including nutrients, pesticides, salt, animal waste, and other toxic organic and inorganic materials), and leaking fuel storage tanks.

The most promising methods for groundwater protection are proper land use management, pollution regulations, regulated soil testing where appropriate, and acquisition of land. Land use management is the first step in the process of protecting groundwater resources. By itself, planning does not sufficiently protect sensitive groundwater areas, but does provide the basis for land development controls such as zoning, which can assist in groundwater protection.

iii. Soils

For the majority of rural Michigan soil, and the type of development it allows or restricts, is a key factor in determining where future development will occur. The suitability of soils for roads,

foundations, wells, and septic systems is critical in determining the location and intensity of development. Crystal Township does not currently have sewer utilities. Therefore, future development and growth must be monitored to determine its current and future impact on the Township's need for future infrastructure. Various soil characteristics such as depth, permeability, wetness, shrink-swell potential, erosion potential, slope, and weight-bearing capacity are all factors that make a soil suitable or not for a given use. Often, appropriate design and management can overcome the soil characteristics that create development limitations.

Soil surveys assist in determining the extent of flood prone areas, access to aquifers, erosion and sedimentation potential, the ability for site septic tanks and absorption fields, and the limitations for construction. Soil information is important in the planning process because it can geographically depict areas that should, or should not be developed in a particular manner, based upon the soil suitability. In some instances, mitigation measures can be used to alleviate some or all of the limitations for a particular soil type. However, these measures are often costly, both to the developer or owner, and to society at large (via the natural environment). Because of this, soil survey manuals often become an important guide for determining future development.

a. *Soil Maps*

There are four dominant soil series located within Crystal Township, according to the Soil Survey of Oceana County, Michigan. They are Covert Sand, Pipestone Fine Sand, Granby Sand and Benona Sand soil series.

- **Covert Series**, 0 to 6 percent slopes. This nearly level and undulating area is found on out-wash and lake plains and are irregular in shape. Permeability is rapid and available water capacity is low. Surface runoff is very slow. It is poorly suited to septic tank absorption fields because of a poor filtering capacity. It readily absorbs, but does not adequately filter the effluent in absorption fields. The poor filtering capacity can result in the pollution of ground water.
- **Pipestone Series**, 0 to 4 percent slopes. This nearly level to gently sloping and somewhat poorly drained soil is on low knolls and ridges and on lake and out-wash plains. Permeability is rapid and available water capacity is low. Surface runoff is very slow. Most areas are used as woodland or are left idle. Because of wetness, this soil is poorly suited to building site development and generally unsuitable as a site for septic tank absorption fields. Buildings can be constructed on suitable well-compacted fill material, which raises the site. All sanitary facilities should be connected to municipal sewage systems.
- **Granby Series**. These soils consist of poorly drained soils on out-wash and lake plains. These soils formed in sandy glacial deposits. Permeability is rapid throughout the profile or is rapid in the upper part of the profile, and very rapid in the lower part. These areas formed when drainage-ways cut through the soils. The excessively drained Plainfield soil is on the upper part of the slopes and the well-drained Perrinton soil is on the lower part. Available water capacity is low. Surface runoff is very slow. It is poorly suited to septic tank absorption fields because of a poor filtering capacity. The poor filtering capacity can result in the pollution of ground water.
- **Benona Series**, 0 to 6 percent slopes. The Benona Series consists of excessively drained soils on end and ground moraines, and out-wash and lake plains. The soils formed in sandy glacial drift. Permeability is rapid throughout the profile, or is rapid in the upper part of the profile and moderate in the lower part. This again, creates possible issues with septic tank absorption and the potential for ground water contamination.

These four soil types, based upon the soil survey manuals, encompass 18% of Crystal Township. The Township contains an additional 130 soil series, ranging from slow to

rapid permeability. This should be considered prior to any form of development with in a specific area.

b. *Septic Suitability*

The location of soils suitable for septic systems to properly function is critical in determining the extent and location where development can occur, *without* the need for public utilities. The soil is not considered to be suitable for septic systems if it has excessively high or low permeability, if the slope is excessive, or the water table is too close to the surface. The permeability and coarseness of soil has a direct impact on its ability to properly filter toxins (i.e. septic material) as they pass through the soil. As previously mentioned, the majority of Crystal Township's soils have low to rapid permeability (United States Department of Agriculture Soil Conservation of Oceana County, Michigan). This is an important concern because toxin-laden water may pass too quickly through the soil to be properly filtered, causing groundwater contamination.

In Table 1, the soil limitations for septic systems, along with building site and traffic way limitations, is shown. Table 2 shows the degree of limitations for each soil series. Table 3 is a reflection based upon overall percentile of the soil associations of the Township. It is important to note that for any specific property, exact soil limitations need to be determined with an onsite soil investigation.

Depending on local conditions, in the Township and on the parcel, there may be limitations for septic operation. For instance, septic tanks may operate safely and effectively during a dry summer, but the very same tanks may malfunction or flood during an extraordinarily rainy spring. The limitations for septic system absorption fields listed are moderate to severe due to the rapid permeability of the sandy soil, and due to poor filtering capabilities of the soil found with in the Township. The Township has considerable difficulty in its physical makeup to have multiple septic tanks placed throughout, as the majority of the land has been recognized as severe. This makes it even more important that soil surveys, per parcel, be completed prior to starting any development and the necessary measures taken to protect the environment from contamination.

As previously mentioned, the main concern with septic suitability is the pollution of groundwater. When the soil becomes saturated due to intense rain or flooding, toxins are removed from septic tanks and flow into groundwater or surface water. Septic systems contain materials such as household cleaners, bacteria, and other toxic nuisances that are more hazardous than human waste. Therefore, when a septic system fails, many different pollutants are released into both groundwater and surface water.

In order to reduce the amount of pollutants released from septic tanks, citizens should refrain from disposing of household chemicals such as ammonia, bleach, or other hazardous substances into septic systems and should perform routine proper septic maintenance. This means that a septic system **should** be emptied at a minimum of every seven years, but more preferable is every other year. Also, septic tanks should be maintained on a regular schedule by cleaning and only be used to capacity.

Table 1

Crystal Township Limitations of Soils for Building Site Development: Residential, Light Industry, Commercial Development, and Roadways					
Soil Series	Degree of Limitations				
	Residential Development	Sanitary Facilities: Septic tank absorption fields	Sewage Lagoon Areas	Buildings for Commercial and Light Industry	Traffic-ways
Covert	Moderate: wetness	Severe, wetness, poor filter	Severe, seepage, wetness	Severe	Moderate: wetness
Pipestone Fine Sand	Severe: wetness	Severe, wetness, poor filter	Severe, seepage, wetness	Slight	Slight
Granby Sand	Severe	Severe, ponding, poor filter	Severe, seepage, ponding	Severe	Moderate: slope
Benona Sand	Slight	Severe, poor filter,	Severe, seepage	Slight	Slight
<p><i>Slight-</i> Soil properties and site features are generally favorable for the indicated use and limitations are minor and easily overcome.</p> <p><i>Moderate-</i> Soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations.</p> <p><i>Severe-</i> Soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increases in construction costs, and possibly increased maintenance are required.</p>					

Source: United States Department of Agriculture, Natural Resources Conservation Service and Forest Service. Soil Survey of Oceana County, Michigan 1990

Table 2

Soil Series	Degree of Limitations			
	Paths and trails	Camp Areas	Picnic Areas	Playground
Covert	Severe: too sandy	Severe: too sandy	Severe: too sandy	Severe: too sandy
Pipestone Fine Sand	Severe: wetness, too sandy	Severe: wetness, too sandy	Severe: wetness, too sandy	Severe: wetness, too sandy
Granby Sand	Severe: ponding, too sandy	Severe: ponding, too sandy	Severe: ponding, too sandy	Severe: ponding, too sandy
Benona Sand	Severe: too sandy	Severe: too sandy	Severe: too sandy	Severe: too sandy

Source: United States Department of Agriculture, Natural Resources Conservation Service and Forest Service. Soil Survey of Oceana County, Michigan 1990

Table 3

Soil Series	Percentile	Contained in Sections:
	Grattan-Covert-Granby Association	62%
Benona-Spinks-Grattan Association	38%	5-7, 18

Source: United States Department of Agriculture, Natural Resources Conservation Service and Forest Service. Soil Survey of Oceana County, Michigan 1990

c. *Erosion*

Another indicator as to whether or not an area is suitable for development, is the tendency for soil erosion by water and/or wind. Natural plant cover prevents soil loss because roots hold the soil in place, even during heavy rainfalls. All four dominant individual soil series located in Crystal Township are susceptible to soil blowing and erosion if their protective/vegetative cover is removed. It should be noted that a change in land use patterns could create substantial changes to the balance between natural plant cover and impervious surfaces. The loss of natural plant cover would increase soil loss rates for the Township. Therefore, it is imperative to protect the area's most susceptible to erosion and minimize their exposure to extensive development.

d. *Flooding*

Another important element relevant to soil is the frequency of flooding. This factor is perhaps most important in terms of residential development, since direct and expensive property damage can occur from either frequent, or prolonged flood events. Flooding is much more difficult to control than other soil related issues.

Flood frequency is determined by how often an area is inundated with water. For example, a floodplain, which is regularly inundated, would have a frequent classification. Floods are caused when the ground becomes saturated beyond its absorption capacity, or when the precipitation is too intense for quick absorption. The less permeable the soil and/or the higher the water table, the more prone an area is to flooding. Areas that have a high probability of flooding should not be extensively developed. Open spaces, adjacent to flood prone areas, are an ideal land use to help prevent extensive and expensive property damage when a flood occurs. This is accomplished by diverting water to the open space.

Because Crystal Township predominately has soil that is low in permeability, flooding may be a regular occurrence. There are areas in the Township that collect water and flood. This is especially prevalent in those areas that are in the vicinity of wetlands. In situations of flooding, the result could possibly be transmittal of pollutants (such as oil and salt) from streets, parking lots, and soils into surface waterways. Because there are not a large number of impervious surfaces in the Township, there is less risk of surface water contamination. Flooding can also cause severe soil erosion. However, where natural plant cover exists in flood prone areas, there is a low probability of severe soil erosion due to the extensive root systems that retard soil erosion.

In conclusion, the potential for any toxic substance to enter the water supply through the process of surface flooding is rather minimal. On the other hand, the potential for groundwater contamination due to septic system failures is a real threat. This is the case in most rural Townships where there are limited or no public sewer systems.

e. *Groundwater resources and protection*

All Crystal Township residents depend upon groundwater as their only source of potable water, so contamination should be watched closely. The potential for groundwater contamination depends upon the type of soil present. For example, sand is very permeable, and thus allows for a greater amount of infiltration of surface water into the groundwater supply. Whereas clay, is very impermeable and retards contamination. However, if clay is near enough to the surface, it will cause the water to puddle or runoff to more permeable soils.

Crystal Township is comprised of rural forested land and limited developed residential land. It also has experienced low to moderate development pressures. Therefore,

there is less of a potential for groundwater contamination from residential septic systems at this time. The exception is multiple homesteads/dwellings on a given parcel sharing a septic system, which can pose problems for septic failure.

The following discussion concerns the major sources for groundwater contamination (Libby and Kovan).

Waste: Land continues to be the primary medium for water treatment in Michigan. As water passes through decomposing waste, it can transmit organic and inorganic pollutants into an aquifer. Outflow from a conventional system, a land disposal system, a municipal waste system, or even a private residential septic system, can carry harmful nitrates into the water supply. Indiscriminate dumping and junk storage also contribute to groundwater contamination.

Farms: Potential contaminants from farms include nutrients, pesticides, salt, and other toxic organic material. Nutrients like phosphates and nitrates are residuals of fertilizers and have the potential to cause excessive plant and green algae growth in nearby ponds, lakes, and streams. Nitrates can also be leached from concentrations of animal waste or decomposing material.

The most promising methods for groundwater protection include proper land use management, pollution regulation, and land use acquisition. Land use management is the first step in the process of protecting groundwater resources. Defensive regulation or control must be built on the basis of logic and foresight contained in a comprehensive development plan.

E. Population Characteristics

Planners attempt to make projections based on past patterns, for items such as growth, age distribution, income, and educational characteristics. The analysis of these factors helps to provide a clearer picture of the future in regards to population. These next sections will look closely at the population, as primarily described in the 2000 U.S. Census of Population and Housing.

i. Population Trends and Projections

In 1990, Crystal Township had a population of 658 persons, and by the year 2000, the Bureau of the Census showed a 26.4% increase to 832 persons. According to the population projections of the West Michigan Shoreline Regional Development Commission, this trend will continue, and the Township is expected to experience steady growth through 2025, as shown in Figure 1. These forecasts are based on Census Bureau historical information that includes an analysis of births, deaths, and migration rates. Graph 1 shows the population increase by year.

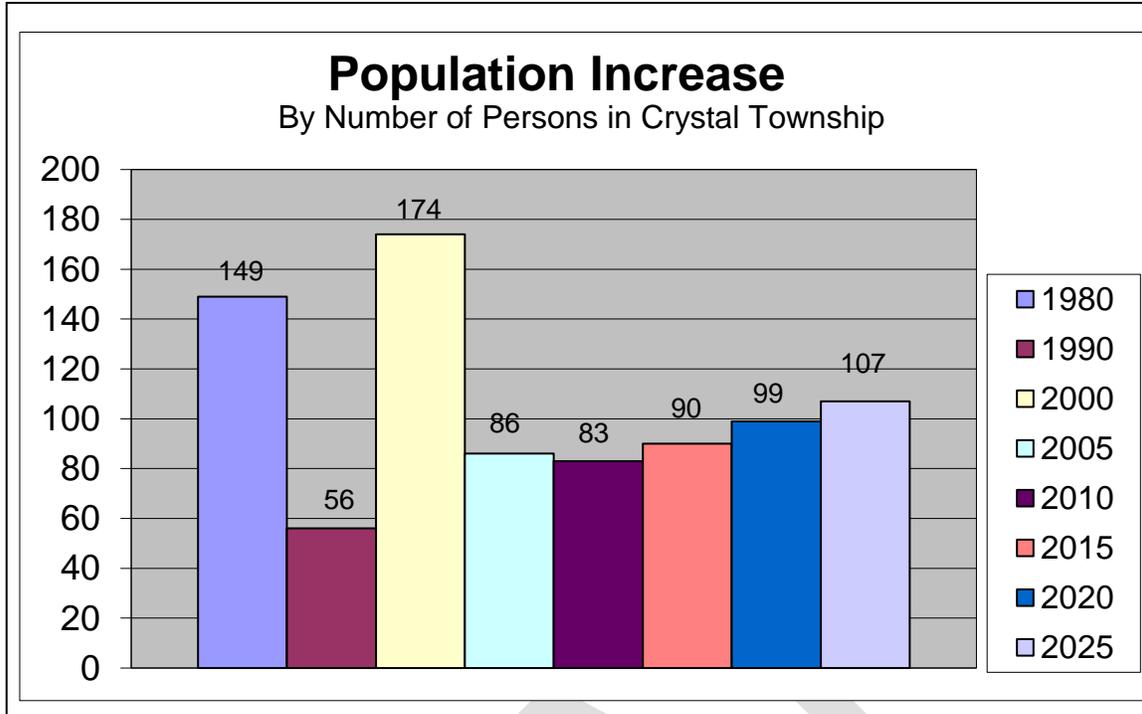
Figure 1 - Crystal Township Population by Year

YEAR	1970	1980	1990	2000	2006	2010*	2015*	2020*	2025*
NUMBER OF PERSONS	453	602	658	832	918	1,001	1,091	1,190	1,297

Source: U.S. Bureau of the Census 2000

*Projections calculated by WMSRDC

Graph 1



Source: U.S. Bureau of the Census 2000 *Projections based on estimates from WMSRDC

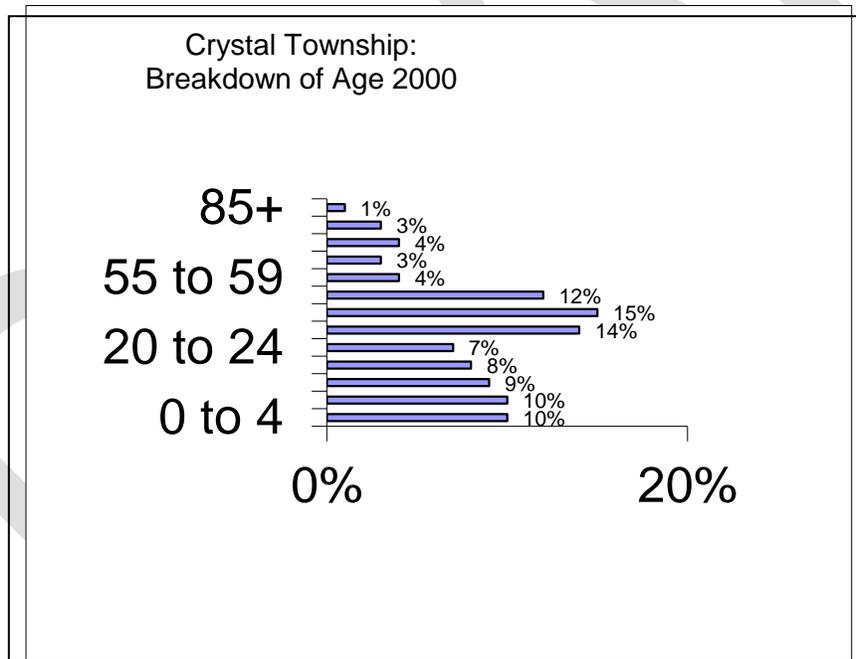
ii. Age Distribution

It is useful to note an increase or decrease in certain population groups, specifically in the school and retirement age populations. These population groups can indicate whether or not there is an increased need for capital and service expenditures. As can be seen in Figure 2 and Graph 2, there are two main age groups in Crystal Township, which comprise the majority of people. In the Township, the largest age groups include persons 25 to 34 and 35 to 44 years old. Persons younger than 9 years make up 20% of the population, and persons between the ages of 10 and 24 comprise 24% of the population. Crystal Township's year 2000 age distribution indicates that the largest age groups contain residents of childbearing age. There is a greater potential for more residents if those of childbearing age continue residing in Crystal Township.

CRYSTAL TOWNSHIP AGE DISTRIBUTION				
AGE	1990		2000	
	NUMBER OF PERSONS	PERCENT OF PERSONS	NUMBER OF PERSONS	PERCENT OF PERSONS
0-4	56	9%	82	10%
5-9	60	9%	81	10%
10-14	61	9%	79	9%
15-19	67	10%	68	8%
20-24	44	7%	58	7%
25-34	113	17%	120	14%
35-44	80	12%	124	15%
45-54	75	11%	97	12%
55-59	25	4%	33	4%
60-64	13	2%	26	3%
65-74	41	6%	34	4%
75-84	18	3%	27	3%
85+	5	1%	3	1%
Total	658	100%	832	100%

Figure 2

Source: U.S. Bureau of the Census 2000



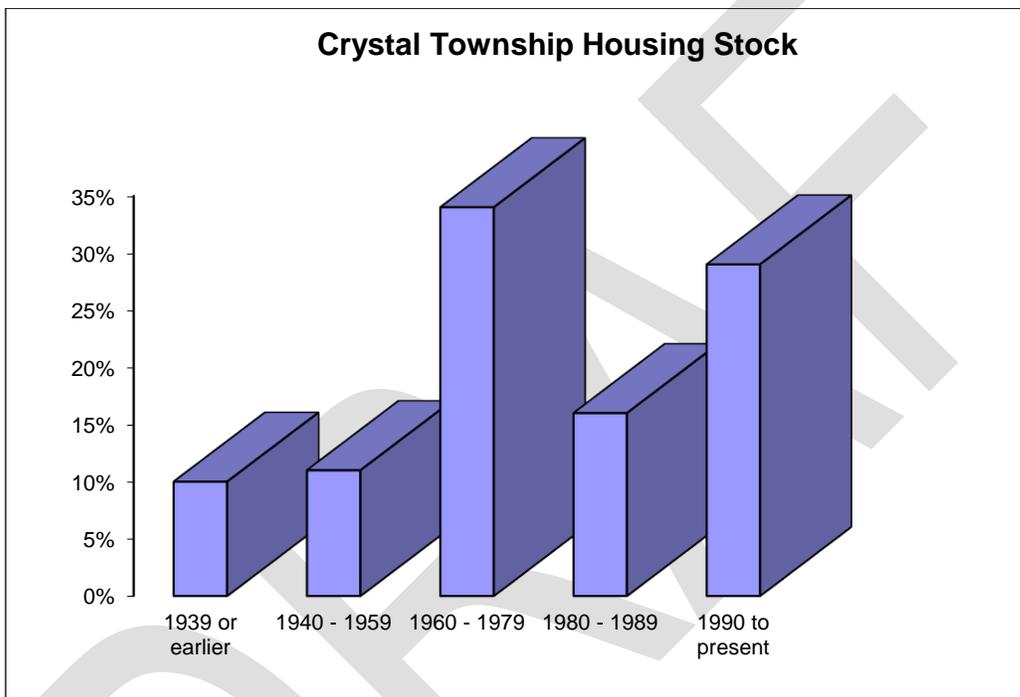
Graph 2

Source: U.S. Bureau of the Census 2000

F. Housing Characteristics

Housing, and its associated uses, occupies the most significant proportion of all uses in terms of the amount of land utilized. Generally, significant changes with an area's housing stock, be it the number of housing units, the percentage of different housing types, or the number of building permits issued, are important factors which affect planning decisions. It is important to note that changing trends related to housing stock are often the first indications that important changes are taking place with the population base and land uses.

The housing characteristics for Crystal Township are based upon the 2000 U.S. Census of Population and Housing summary data, and thus do not reflect recent changes that have occurred in the last three years. Looking at Graph 3, it can be seen that the housing stock within the Township is diversified in age. Therefore, the age of the housing stock does not appear as though it will be an issue, if the population grows as projected and the current building rates continue.



Graph 3

Source: U.S. Bureau of the Census 2000

Another important aspect of housing stock to consider is the variety of housing types present in the Township (traditional single-family homes, duplexes, and mobile homes). Having a variety of housing types contributes to affordable housing opportunities for Township residents. It is obvious that the traditional single-family home is predominating in Crystal Township. This is perhaps due to several factors, including a lack of appropriate building sites for other homes. For example, multiple-family housing units often require water and sewer utilities. In the Township, the majority of the housing types consist of one-unit detached homesteads (52.8%) and mobile homes/manufactured homes (35.1%).

According to the 2000 US Census, approximately 17.6% of Crystal Township's housing units are rental units. It is important to have an appropriate balance between renter and owner-occupied housing units in order to provide housing for all segments of the population and to maintain housing stock values. Housing occupancy for homeowners is 99% and rental housing has a 6.7% vacancy rate. There are no homesteads that are without complete plumbing facilities and 27 (10.8%) have no telephone service (U.S. Bureau of the Census 2000).

Age distribution can also be used to predict other elements, such as the need for additional dwelling units. With the Township's projected additional persons by the year 2025, the Township will need 205 additional

dwelling units to house those persons if the average of 2.3 persons per dwelling unit holds true. Therefore, at a minimum and to keep up with population increases, Crystal Township will need to be proactive in addressing housing issues.

The diversity of housing values in Crystal Township consists of making homeownership attainable in Crystal Township (see graph 4). Along these lines, the median household income for Crystal Township residents is \$31,719, while the median family income is \$37,955, with 14.8% of families in the Township falling below the federally established poverty level.

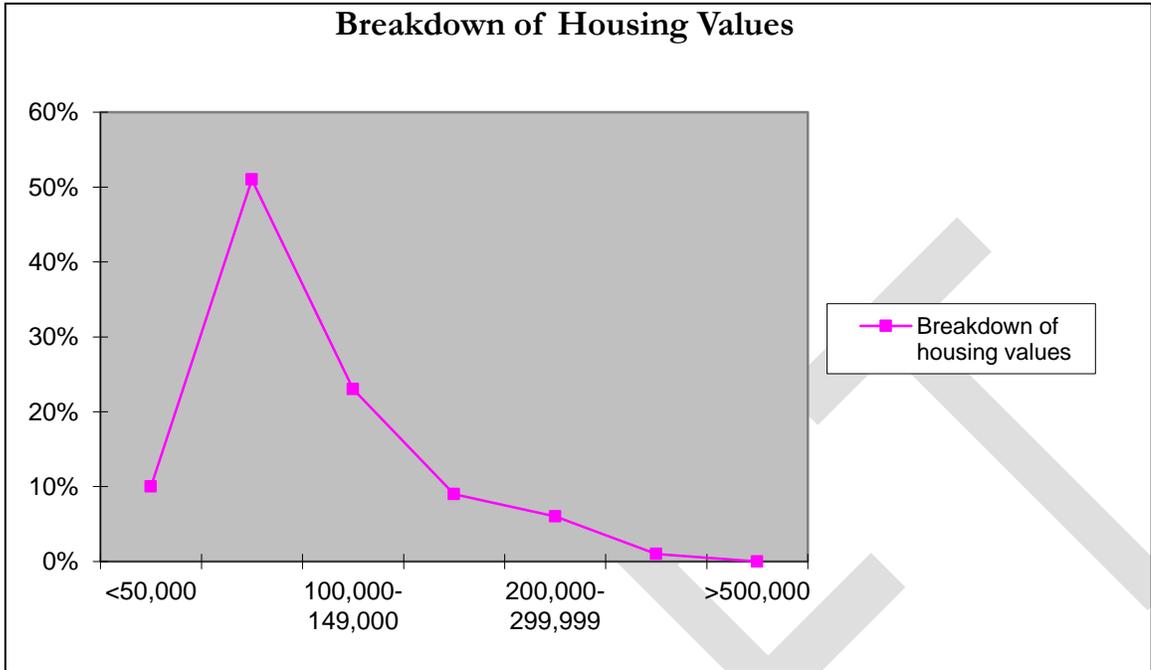
The information contained in Table 4, concerns the number of building permits that have been issued to sites in Crystal Township from 1995 through 2001. These permits can range from additions, decks, mobile homes, garages, pole barns, and new structures. 46% of the permits issued were for residential buildings.

Table 4

Permits Issued By Type				
Year	Stick Built	Manufactured Mobile Homes	Pole Barn Garage	Addition, Deck Shed, Misc
1995	1	5	0	0
1996	2	5	4	3
1997	7	3	5	4
1998	1	6	9	2
1999	0	13	12	3
2000	5	9	4	4
2001	1	2	4	2
Totals	17	43	38	18
%	15%	37%	33%	15%
2013	2	1	2	3
Totals	2	1	2	3
%	25%	12%	25%	38%

Source: Office of Oceana County Building Inspector, 2002 & 2013

Graph 4



Source: U.S. Bureau of the Census 2000

G. Township Government

Crystal Township was both established and incorporated in Oceana County in approximately 1865. It operates under a Supervisor-Trustee form of government. The Township Board, under an annual budget for the fiscal year, establishes priorities for capital expenditures, operations, and maintenance.

The Township Supervisor, Clerk, and support staff handle all day-to-day administration activities. Crystal Township operates on a general operating fund budget as outlined in Table 5.

Table 5

Crystal Township General Fund Budgets Est. 2011-2012

Revenues		Expenditures	
Taxes	\$63,636.51	Supervisor	\$6,000.00
State Share Revenue	\$59,314.00	Twp Board	\$14,901.81
Interest	\$974.97	Elections	\$1,286.52
Cemetery Sales & Etc	\$5,640.00	Assessor	\$6,309.00
Misc Revenue	\$5,279.19	Clerk	\$7,442.06
Transfers In-Other Funds	\$1,074.90	Board of Review	\$823.75
Zoning Revenue	\$2,962.72	Treasurer	\$7,867.31
Transfer Station Revenue	\$1,074.90	Building & Grounds	\$2,774.72
Fire Asst Revenue	\$815.00	Cemetery	\$11,022.79
Donations to Fire Dept	\$25.00	Fire Department	\$17,760.07
Road Millage	\$5,975.86	Roads Brining	\$5,850.00
Fired Equipment Millage	\$9,096.89	Contingency	\$7,681.00
Total Revenues:	\$155,869.94	Payroll FICA & Medicare	\$2,339.19
		Operation of Transfer Site	\$13,260.47
		Zoning	\$3,351.49
		Dam & Drains	\$1,051.00

Audit	\$75.00
Library	\$2,048.00
Planning	\$410.03
State Taxes	\$1,403.06
Fire Equipment	\$9,105.00
Roads	\$25,607.29
Total Expenditures:	\$148,369.56

Source: Crystal Township's General Fund Budget FY 2011-2012 (Approved)

H. Recreational Facilities and Public Open Spaces

Recreation facilities in the surrounding areas of Crystal Township are a combined effort of public and quasi-public entities. They consist primarily of lakes, creeks, and rivers, as well as the Manistee National Forest.

Crystal Township has just over 7,500 acres of the Manistee National Forest that can be utilized as recreational facilities in the form of trails. The Township also has three lakes (Crystal and Mudd), one river (Pentwater), and four creeks (Big Springs, Crystal, Cedar, and Cleveland) that run throughout its jurisdictional boundaries.

Crystal Township has a public hall that is utilized for all Township meetings. While Crystal Township currently has no township owned park, there is an Oceana County park in section 17 that contains a ball field and other recreational uses.

I. Current Land Use/Cover

Crystal Township's current land use consists primarily of scattered residential development with a small number of working farms within its jurisdictional lines. Residential development, in the form of subdivision or cluster housing, is limited and only affects a small section of the Township. Small commercial development clusters also exist in other sections of the Township. Only 25% of the Township is currently developed. With a large portion being owned by the Federal Government and the unique features making most areas unbuildable, development will be limited in the Township boundaries for some time.

J. Zoning in Crystal Township

Currently, Crystal Township does have a set of zoning ordinances or districts. It was to be developed and established upon completion of the Land Use Plan. Some of these districts include residential, commercial, agricultural, and industrial.

Chapter 3

GOALS AND OBJECTIVES

As a part of the means utilized to develop this Plan, a general consensus regarding the preferred future of Crystal Township had to be established. This process underwent many means to accomplish this, including a community inventory, meetings with both elected leaders and appointed representatives of Crystal Township, distribution of a household wide survey, and a public meeting to receive comments from residents, community members, and neighboring communities. In accord with the goals and objectives, a further detailed analysis of what the community perceives as its strengths, weaknesses, opportunities, and threats (S.W.O.T. analysis) should also be embarked on separate from the Land Use Plan.

The result of these activities led to a series of eight broad goal statements, each supported by more specific objectives designed as a tool to attain these goals.

The Land Use Plan is founded on the policies outlined in the following statements. The goals are intended to describe a desirable end state or condition of the Township twenty to twenty-five years into the future. The goals and objectives are intentionally general but all are felt to be attainable through a collaborative community effort. The objective statements tend to be more specific and may be viewed as milestones used in the process to achieve the larger goal.

The following statements set forth the fundamental goals of Crystal Township's Land Use Plan. These goals describe the community in 20 to 25 years. These goals and objectives are in no particular order.

A. PRESERVATION OF NATURAL FEATURES

GOAL

Contributing to the community's character are the natural features of Crystal Township. Its undisturbed woodlands, riverfront, wetlands, lakes, and natural features will continue to contribute to the quality of life for Township residents. In return, the community's commitment to its natural features will be reflected in effective measures for preservation, improvements, and enhancements to its lakes, rivers, streams, groundwater, woodlands, and wildlife habitat.

OBJECTIVES

1. Preparation of a permanent Township record identifying both public and private natural features of the community. Classification of the Township's treasured uniqueness, its probable threats, and the comparative preference among the numerous natural resources.
2. Build and strengthen relationships with state and federal agencies to further the community's goals for the protection of natural features.
3. Institute and build up cooperative and supportive relationships with neighboring communities to protect and preserve natural features from possible contamination, erosion, and development which is inconsistent with Crystal Township Land Use Plan.
4. Create, update, maintain, and continually strengthen a community commitment to sustain planned, responsible growth management strategies to be utilized by Crystal Townships elected and appointed leaders.
5. Cultivate and establish systems to monitor the viability of natural features and a process to control and limit development in affected areas.

B. TOWNSHIP ECONOMIC GROWTH

GOAL

Crystal Township's economic vitality will be secured through a rational and chronological pattern of land uses that promote clean and desirable development. An on-going commitment to develop and renew will assure a stable economic base and the formation of a strong core identity for the Township within the regional context of Oceana County and West Michigan.

OBJECTIVES

1. Develop and design an inventory of important economic assets and mechanisms to strengthen them.
2. Develop and implement procedures to evaluate planned and proposed development for its impacts on the economic health of the community.
3. Define the community's core and develop and implement mechanisms to establish and strengthen that core area.

C. PARKS, RECREATION AND COMMUNITY CENTER

GOAL

The quality of life for Crystal Township's residents will be enhanced through a combination of public and private recreation facilities and activities that serve the social and recreational needs of all. Further exploring the need for a community center with additional places for social activities, recreational facilities,

and programming to meet the needs of all. Investigate a system of bike and pedestrian paths, public access points to the area's existing natural features, including the Pentwater River and multiple creeks, and a community wide network of parks and open spaces that will be key elements of the Township's recreational framework.

OBJECTIVES

1. Create an inventory of the significant recreational assets of the Township and determine an appropriate and sustainable level of public use for each. As a part of this inventory, identify key sites and appropriate mechanisms to acquire public title or easements for their continued use.
2. Develop and then continually maintain and update the Township's Recreation Plan to prioritize needs, mark progress towards full implementation, and to position the Township for available financial support.
3. Develop and implement a plan to establish a system of bike and pedestrian paths, public access points to the area's natural features, and a community wide network of parks and open spaces.
4. Develop techniques to build and strengthen the community consensus concerning recreation and the public's role in providing the necessary facilities.

D. PLANNING, ZONING AND GROWTH MANAGEMENT

GOAL

Land uses in Crystal Township will be arranged to protect open and green areas, to foster an appropriate measure of commercial and industrial development and/or expansion within defined areas, to encourage a diverse range of housing types and cultural backgrounds, and to continually improve and enhance the aesthetic qualities of the Township. Land use decisions will be made in accord with a current and continually reviewed Land Use Plan and will be reached with broad community involvement and support.

OBJECTIVES

1. Establish incentives for development patterns that support the Township's goals and disincentives for patterns that encourage sprawl or development outside the "future" plans of the Township.
2. Develop an inventory of opportunities and tools to encourage investment and reuse of underutilized properties.
3. Create an informed and educated community concerning the advantages of managed/controlled growth.
4. Foster and maintain a community commitment to continuous improvement and to re-energize the Land Use Plan.

E. ADEQUATE INFRASTRUCTURE/COMMUNITY PROTECTION

GOAL

Minimize unnecessary public expenditures for infrastructure and services by controlling the location, density, pattern, and type of future development. Continue to promote water quality, septic planning, and future sewage planning to ensure the health, safety, and welfare of Township residents. Continue to develop and maintain roadway priorities through a working relationship with the Oceana County Road Commission and other transportation agencies. Explore programs or expend resources that will allow the Township to provide more policing within the Township limits. This will help to deter criminal activity and increase the safety of Township residents.

OBJECTIVES

1. Develop and implement an infrastructure improvements and maintenance program that includes roads, sidewalks, and high-tech communications, incorporating streetscape improvements to be made by business owners and community members.
2. Develop and implement a program exploring long-term possibilities for the development of a municipal water and sewer system.

3. Develop and implement a program establishing a Capital Projects Fund for the development of future municipal facilities.
4. Develop and implement a plan that balances maintenance of existing roads with the development of new roads.
5. Explore the possibility of expansion that will allow for growth in the Township Hall.
6. Develop and implement a program of community involvement in public safety and service activities to strengthen neighborhoods and communication channels.

F. REGIONAL/JURISDICTIONAL COOPERATION

GOAL

Crystal Township will play a regional leadership role in promoting cooperation and mutual support between and among the bordering boundaries of Riverton, Eden, Logan, Colfax, Leavitt, Elbridge, Hart, and Weare Townships. Appropriate consolidation of services will be undertaken to provide the citizens of the region with the most responsive and efficient services possible.

OBJECTIVES

1. Inventory existing relationships with local, county, regional, and state units of government and evaluate the Township's role and the effectiveness of the relationship.
2. Maintain continuous and active participation in regional activities, capital improvements, economic development, watershed planning, land use, and transportation planning.
3. Continually seek common regional goals and cooperative approaches to meet them.

G. HOUSING, NEIGHBORHOODS AND COMMUNITY

GOAL

The residents of Crystal Township will help shape the Township's identity through strong community values and a deep sense of pride in the Township.

OBJECTIVES

1. Develop and implement housing to be consistent with providing for the general health, safety, and welfare of the Township residents and to promote the rural atmosphere of Crystal Township.
2. Develop and implement tools to foster a range of housing types including, but not limited to,
 - a. "starter" homes for young families
 - b. efficient and appropriate housing for seniors
 - c. provide for development of subdivisions and neighborhoods for future area residents consistent with this land use plan.
3. Develop and implement programs to renew and improve existing housing and pursue funding to renew areas that require attention.
4. Develop and implement effective programs to strengthen code enforcement measures assuring safe and sanitary homesteads.

H. GOVERNMENT AND FINANCE

GOAL

The citizens of Crystal Township and their elected and appointed leaders will design and share a covenant based on a commitment to the finest quality services delivered efficiently and effectively in exchange for citizen investment in the affairs of government and in the necessary revenue base to maintain those services. The community will expect efficiency and innovation and the use of proven approaches to service delivery and will support a diverse mix of land uses.

OBJECTIVES

1. Develop and implement a program to educate citizens concerning the challenges of local government and to build consensus building and communications within the community.
2. Continually encourage citizen involvement in the affairs of the Township.
3. Provide assistance to strengthen listening skills among Township elected representatives and leaders.
4. Develop and implement a long-term financial plan with a capital improvements plan for the Township coordinated with and supportive of the Township's Land Use Plan's goals and objectives.
5. Continually evaluate needed services and determine the most effective delivery approaches to accomplish this.

Chapter 4

CRYSTAL TOWNSHIP DEVELOPMENT CONCEPTS

Development concepts serve as a bridge between the Township's goals and objectives, and the Recommended Future Land Use Districts and Map. Development concepts are the broad explanations of basic assumptions and supporting ideas that are used to develop the Recommended Future Land Use Districts and Map.

A. Basic Assumptions

Based upon the Township's goals and objectives, two key assumptions about the growth and development of Crystal Township needed to be established:

- The population of the Township will continue to grow at a moderate rate from 832 persons in 2000, to a projected total of 1,297 persons in the year 2025, a 55.9% increase.
- As the Township continues to grow, preserving the community's rural character, protecting its natural resources, promoting healthy smart growth, and the cooperation, collaboration, and communication with neighboring communities, will be vital to the overall development of Crystal Township.

B. Growth Management

Growth, in terms of population and employment, changes land use patterns and the character of a community. The open spaces, lack of traffic congestion, and general rural settings found in and around low residential density, is how townships often entices people to move to such areas. However, as growth occurs, the very things that were enticements can be lost. The results of growth can be expensive (cost of infrastructure, school facilities) and potentially harmful to environmental resources. Residential development pressures will most likely increase as Crystal Township continues to grow.

Orderly development, which provides for the protection of environmental resources as well as the character of the Township, should be promoted through responsible growth management strategies and techniques. Growth management refers to the systematic attempt, by a community, to guide the type, rate, location, timing, public cost of, and often the quality and character of land re-development (Michigan Department of Natural Resources, Michigan Coastal Management Program 1). The Crystal Township Planning Commission supports this concept as a means of controlling future development.

C. Settlement Patterns

The manner in which a Township develops (i.e. settlement pattern), has a tremendous impact upon its character and recreational opportunities. For the most part, land is a finite resource, and therefore, must be used wisely. Once land is fully developed (i.e. residentially, commercially or industrially), it is near

impossible to revert the land back to its original natural state. Therefore, conserving open spaces at the beginning or onset of development is imperative.

When controlling patterns of development, primarily by the use of minimum lot sizes, caution needs to be taken. The resultant patterns of development, after completely developing land according to minimum lot size requirements, will be checkerboard development with lots of 'elbow room' (i.e. yards) between houses and nothing else.

This is not the only method of development. Full density can be achieved on a much smaller portion of land by allowing flexible standards for lot size and frontage. This leaves the balance in permanent conservation. The open-space subdivision design approach, as well as the newly adopted open space preservation legislation, permits the conservation of more than floodplains, wetlands and steep slopes. It allows for the protections of mature or healthy and diverse forest lands, meadows, wildlife habitats, historic buildings, scenic views, or whatever the Township deems worth conserving to protect its character and environmental resources. The development and infrastructure costs will also be minimized, by reducing the amount of land utilized by homes.

Chapter 5

RECOMMENDED FUTURE LAND USE DISTRICTS

The following recommendations should be used as a guide for growth and development in Crystal Township. The following describes the Recommended Future Land Use Districts that are the narrative explanations of the districts contained on the Future Land Use Map.

A Future Land Use Plan and a zoning ordinance are related. A zoning ordinance is the legal arm of a Future Land Use Plan. It is the most frequently used and effective regulatory tool to implement a Future Land Use Plan, as it regulates land use. The word 'district' is often used in both kinds of documents; however, the term must be used carefully. Using similar terms for the various land use designations is one way to demonstrate the relationship between the two documents, and it helps to avoid confusion and translation difficulties.

It is important to realize that a future land use map and a zoning map are not the same thing. For example, the use of the term 'Commercial' on a future land use map does not necessarily translate into specific numbers in terms of lot sizes and other elements of zoning. In some cases, a designated district on a future land use map might not 'convert' for the flexible interpretation of other zones. The map should not be confused with a zoning district map, which is a current (short-term) mechanism for shaping development. The plan categories generally correspond to zoning districts, but there is some overlap to allow for specific site conditions. Thus, not all properties should be immediately rezoned to correspond with the plan. The Future Land Use Map is intended to serve as a guide for land use decisions over a longer period of time. The following recommended Future Land Use Districts would have some overlap in purpose and implementation.

As a part of this planning process, seven Future Land Use Districts have been recommended. These districts are the result of an analysis of current land uses, environmental suitability, the existence of, or ability to, provide services and the compatibility with goals and objectives previously identified in the Plan. The seven districts are:

- Agricultural/Low Density Residential
- Medium Density Residential
- High Density Residential
- Commercial
- Industrial
- Forestry/Recreational
- Open Space

A. Future Land Use Categories

Agricultural/Low Density Residential: This designation identifies that this area shall remain in agricultural use, or for development of intensive farming operations. Many of the areas are prime farmland or have significant natural limitations such as wetlands or severe soil limitations. These areas are also designated for single family residential use on large lots.

Medium Density Residential: This designation refers to platted single-family homes, duplexes, and attached condominiums, all typically found within a subdivision. This designation is found within areas served, or planned to be served, by sanitary sewer. Development will be at a density consistent with the infrastructure and land capabilities. Public water or a community well generally serves developments in these areas well.

High Density Residential: This designation refers to apartments and other multiple dwelling units and manufactured housing/mobile home parks. Similar to Medium Density Residential, this designation is found within areas served, or planned to be served, by sanitary sewer. Development will be at a density consistent with the infrastructure and land capabilities. Public water or a community well generally serves developments in these areas well.

Commercial: Businesses which serve the requirements of the community at large including neighboring municipalities and pass-by traffic are designated by this category. These districts are intended to be clustered, rather than allowed to create an undesirable commercial strip pattern of development. The Commercial District will also include heavier and larger commercial uses, such as auto dealerships, stone/monument sales, and truck rental establishments. Special consideration needs to be given to the locations of these heavy commercial uses to minimize their impact on adjacent land uses.

Industrial: The intent is to develop industrial uses such as research, wholesale, and warehouse activities and light industrial operations which manufacture, compounding, process, package, and assemble and/or treat finished or semi-finished products from previously prepared material. The processing of raw material for shipment in bulk form previously prepared material. The processing of raw material for shipment in bulk form, to be used in an industrial operation at another location is found only in very defined and limited portions of this area.

Forestry-Recreational: The intent is to protect and preserve suitable land for recreational purposes and forested areas, which includes the Manistee National Forest. It is designed to regulate and limit the location of buildings and structures to protect the natural resources, including, but not limited to, natural habitats of wildlife, waterways and water bodies, forestry capabilities, public and private recreational uses, and human, plant, and animal life. Uses permitted include, golf courses, parks, playgrounds, sports fields, camping, and sustained forestry uses.

Open Space: The preservation of open space within the Township is the intent of this district. It includes areas that are not able to be developed, including land that has unique characteristics, are environmentally sensitive, and/or perform important natural functions. Open spaces provide scenic views, groundwater recharge areas, and erosion protection.

B. General Implementation

Implementing the ideas generated through the planning process is the culmination of the analysis, goal setting, and interaction activities, which took place during the creation of the Land Use Plan. This portion of the Plan is designed to guide the community in taking the actions necessary to achieve its goals and objectives.

The Crystal Township Land Use Plan is intended to be a working document that provides the Township's decision-makers with information and guidance regarding the goals of the community. Whenever land use issues arise, the Plan should be considered. A continuous effort on the part of the Crystal Township Planning Commission, Township Board, and the community at large, is required for the successful implementation of the Plan. It is essential that each member of the Commission and Board understand

the Plan, know their own role as it relates to the Plan, and promote implementation of the Plan by the Township Planning Commission, Township Board, and appropriate agencies, community groups, and citizens.

The goals and objectives of the Crystal Township Land Use Plan can be implemented through the use of the following that Crystal Township can utilize. The following list of tools and techniques are certainly not an exhaustive list, however, some are more applicable to the Township than others. Many of the tools and techniques can be used for multiple purposes by Crystal Township to achieve its goals and objectives, even though they are listed under specific headings.

i. Zoning Ordinance

A zoning ordinance is the primary regulatory tool used to implement future land use plans. Following the adoption of the Plan, Crystal Township will complete an internal community inventory and review its priorities. From these the Crystal Township Zoning Ordinance was developed and designed.

This ensures that the zoning ordinance was created in such a manner so that it is consistent with the completed Crystal Township Land Use Plan. The zoning ordinance itself will reflect the Crystal Township Land Use Plan; however, the Zoning Map will not necessarily reflect the Future Land Use Map.

ii. Subdivision Control Act

Townships are authorized to regulate and control the subdivision of land within their jurisdiction pursuant to Public Act 591 of 1996, the Land Division Act (formerly know as P.A. 288 of 1967, the Subdivision Control Act). Prior to creating a subdivision ordinance, a thorough understanding of the Land Division Act must be had. The Township can have an important voice in the design and layout of subdivisions, as well as set uniform standards for streets, utilities, and other improvements with the creation of a local subdivision control ordinance. A subdivision ordinance would require the conformance of plats with the Crystal Township Zoning Ordinance and allow additional controls to assure that development occurs in an orderly manner. Inserting subdivision design standards while developing the Crystal Township Zoning Ordinance would be an initial step towards creating a subdivision control ordinance.

iii. Open Space Protection

The planning and zoning process should integrate the conservation of open space. Recommendations made in the goals and objectives and the recommended future land use sections, along with several other elements of the plan reflect that philosophy. The recommended Future Land Use Districts section most clearly defines open space. Open space conservation is important because open space needs to be planned and provided for prior to complete development occurring.



The Future Land Use map is set to correspond with the Zoning Map with Zones labeled as follows:

- Green: Agriculture/Rural Residential
- Blue: Low Density Residential
- Purple: Medium Density Residential
- Orange: Neighborhood Commercial
- Pink: Light Industrial
- Yellow: Manufactured Housing

Chapter 6

RECOMMENDATIONS

A. Natural Resources Recommendations

Protection of Crystal Township's natural and cultural resources is an essential element of the overall Plan. Key recommendations include, but are not limited to:

- Establishing a local wetland protection by-law that provides stronger protection than the state act by protecting isolated wetlands, wetland buffer zones, and the many creeks throughout the township, including two inland lakes, the Pentwater River, and its many tributaries.
- Taking steps to address runoff and pollution as part of a long-term strategy to improve water quality in the lakes, river, creeks, and wetlands.

B. Open Space Recommendations

One of the most common themes in Crystal Township is the desire to preserve much of the open space in the Township due in part to maintain the rural flavor of the community. The open space section outlines a multi-pronged open space protection. Priorities for open space protection should focus on Crystal Township's most unique and irreplaceable resources, as well as, those areas that are not already protected by state and local environmental laws. The highest-priority areas for open space protection should include areas that:

- Provide access to water bodies (e.g. public beaches, lakeside parks, boat launches).
- Extend or connect existing open space patches or corridors.
- Contain significant wildlife habitat.
- Conserve the Township's natural resources, such as water.
- Preserve the pastoral character of the Townships rural sections.

C. Economic Development Recommendations

The most important step that Crystal Township can take to promote desired economic development is to ensure an appropriate quantity and location of commercially and industrially zoned sites. To encourage developers to build in Crystal Township's Commercial or Industrial Districts, the Township should streamline its zoning requirements when they are constructed to eliminate unnecessary obstacles to appropriate economic development. This does not mean that the Township should allow environmentally destructive or high-impact developments, but rather that it should allow a certain amount of flexibility so that developers can propose projects that benefit both themselves and the Township. In addition, the Township should target future infrastructure development (water, sewer, and communications) to areas that are suitable for such uses, according to the Future Land Use Map. In order to increase its ability to attract *desired businesses* to Crystal Township, the Township should also consider enlisting the aid of the Oceana County Economic Development Organization.

D. Housing Recommendations

Crystal Township has experienced a significant number of new homesteads being built from 1995 through 2001, with 60 new homesteads (Crystal building permit records). Of these new homesteads, 72% were mobile or modular, while 28% were stick built. Rising housing costs can threaten the vitality of the community by way of encouraging gentrification of the current economic diversity throughout the Township. The Township may want to look into balancing the heavy weight of pre-fab/mobile verses stick-built, so that there is equal representation of available housing opportunities.

Rather than select specific sites for additional multi-family housing districts, the Township should continue to allow multi-family housing by re-zoning application. This policy will allow developers to select the most appropriate sites for multi-family development, while giving the Township significant control over the approval and design of the development. Attaching soil capabilities and the expenses of that determination should be levied upon the developer, making the developer responsible for providing adequate

documentation as to the buildible/unbuildible sections within the developments boundaries. Specific criteria for the approval of multi-family housing special permits should be established so that the process is fair and results in development that is acceptable to the community. The development of affordable housing should also be encouraged through incentives and or requirements.

E. Public Facilities and Services Recommendations

To prepare for future growth, the Township should examine the potential need for public facilities such as water and sewer, and possibly perform a feasibility study to determine the cost/benefit and the approximate time frame that implementation of such may be necessary. It may also be necessary to explore the availability of a community police officer through the sheriff's office that is solely for Crystal Township. Also, the discovery of new recreational venues as they are needed, including, but not limited to, boat launches and public parks.

Chapter 7

Zoning Plan

The Zoning plan is required by Section 33 of the Michigan Planning Enabling Act, MPEA and Section 305 of the Michigan Zoning Enabling Act, MZEA, in all municipalities that have a Zoning Ordinance in place.

The Zoning Plan must consist of the following elements:

- How lands on the future land use map relate to the zoning districts on the zoning map.
- A description of each current and any proposed zoning districts, the purpose of each district, and a list of uses permitted, special and planned unit developments.
- A schedule of regulations by district that include at least building height, bulk, lot area, and setbacks.
- A zoning map showing location of existing and proposed zoning districts.
- Standards and criteria to be used to consider rezoning consistent with this Master Plan.

Relating to the Land Use Plan

The Crystal Township Master Plan sets policies, goals, and objectives for the development of the township for the next twenty years. It will be reviewed and updated, as necessary, every five years as required by the MPEA. The Zoning Plan and Master Plan are intended to guide changes to the Crystal Township Zoning ordinance to implement the Master Plan itself.

Zoning Districts & Dimensional Standards

The Master Plan lists seven land uses and the Zoning ordinance lists six districts. The purpose of each Zoning District and permitted and special uses are listed. A table in each district description shows the dimensional standards for each district.

Master Plan: Agricultural/Low Density Residential

The following districts are considered an agricultural and low density residential district.

Zoning Ordinance Chapter 5 Agricultural – Rural Residential District

Intent of the district: to promote and protect agricultural uses with limited urban influences and preserve open space.

Permitted Uses: Farms, roadside farm stands, agricultural labor camps, home occupations, single family dwellings, accessory buildings and structures, day care and state licensed residential facilities, public parks, playgrounds, and cemeteries.

Special Uses: Removal of mineral resources, group and commercial day care homes, roadside stand over 400 sq ft, bed & breakfast establishments, utility and public services buildings, churches, schools, libraries, community centers, radio/television/cellular telephone buildings & towers, intensive lied stock operations, migrant housing larger than single family.

Zoning Ordinance Chapter 6 Low Density Residential District

Intent of the district: Residential and related non residential uses t o provide additional housing opportunities by providing a variety of housing options.

Permitted uses: Single family dwellings, state licensed family care facilities and day care homes, home occupations, public parks, playgrounds & cemeteries, roadside stands under 200 sq ft and accessory buildings.

Special Uses: Two family dwellings, multiple family dwellings, roadside stands over 200 sq ft, removal and processing of mineral resources, public and private campgrounds, churches, libraries, community centers, utility & public service buildings.

Master Plan Medium Density Residential

The following zoning districted is considered a medium density district

Zoning Ordinance Chapter 7 Medium Density Residential District

Intent of the district: Residential and related non residential uses t o provide additional housing opportunities by providing a variety of housing options. Single and two family and medium density multiple family dwellings.

Permitted uses: Detached single family dwellings and accessory structures, family day care homes, home occupations, public parks and playgrounds, cemeteries and single family site condominiums.

Special uses: Two family dwellings, multiple family dwellings, roadside stands, churches, libraries, community buildings, utility & public service buildings

Master Plan High Density Residential

The following is considered High Density Residential

Zoning Ordinance Chapter 8 Manufactured Housing Community

Intent of district: To provide regulations for Manufactured housing communities and provide for additional housing opportunities and choices.

Permitted uses: State licensed manufactured housing communities, family day care homes, state licensed family care facilities, accessory buildings.

Master Plan Commercial

The following district is considered a commercial district

Zoning Ordinance Chapter 9 Neighborhood Commercial Service District

Intent of the district: provide for local retail business and service uses for the residents and traveling public of the township.

Permitted uses: office buildings, banks & credit unions, personal service establishments, retail stores, lodging facilities, private clubs, utility & public service buildings, utility trailer rentals, accessory buildings.

Special uses: funeral homes, veterinary hospitals, clinics & kennels, commercial warehouses, removal and processing of mineral resources, auto wash, service & repair facilities, open air business, drive through restaurants, theaters.

Master Plan Industrial

The following district is considered an Industrial District.

Zoning Ordinance Chapter 10 Light Industrial District

Intent of the district: provide areas for industrial uses service by adequate infrastructure. Uses in the district are to provide for light industrial and manufacturing, wholesale and warehouse uses compatible with one another and surrounding uses and with an absence of objectionable external effects.

Permitted uses: industrial plants for agricultural products, food products, furniture, printing, engineering equipment, stone monuments, textile, apparel, lumber, paper, biological products, glass, jewelry, fabricated metal, wholesale and warehousing, offices, research and developments, trade schools, body shops, utilities and public service buildings, accessory buildings.

Special Uses: truck/freight terminals, bulk fuel storage, junkyards, adult uses, removal and processing mineral resources.

Chapter 8

CONCLUSION

Value of a Land Use Plan

The aspirations for change included in a land use plan will occur as a result of cumulative private and public decisions about such things as opening a business, locating a residential development, or installing a public park. That is, the inter-workings of investments by private actors, individual entrepreneurs, as well as development decisions by public and quasi-public agencies, bring about physical change to a municipality. If properly used, the Land Use Plan can inform government about where public development such as playgrounds and fire stations should go. It can give potential investors a general sense of where the community would prefer residential, commercial, and industrial development to be located. In short, the purpose of a land use plan is to offer guidance to any and all actors whose decisions affect land. In more particular terms, this land use plan addresses problems and inconsistencies caused by the way land is currently used in Crystal Township and it offers several professional suggestions for achieving commonly-held aspirations for the Township's future development.

This Land Use Plan provides a clear vision for Crystal Township's future growth and development. It describes where various types of future land uses, through the Future Land Use Map, and where development should be located, as well as providing clear guidance as to the form, characteristics, and appearance that are desired for future development. However, the vision embodied by this Plan is but the first step in making those visions a reality.

The Crystal Township Land Use Plan presents agreement about ways to steer change in the Township, based on modes of development, which sustain and support the community in a sensible and responsible manner. The magnitude of expected change is relatively small: the rate of population increase is expected to continue with the number of residents increasing over the next few years throughout the Township. Throughout the township, the average household income will increase moderately. The long term economic growth projection is for slow but steady growth, meaning that dramatic land use changes, may or may not occur in a very few areas and that if these come, these dramatic changes will require several years to be completed. Therefore, the most direct objectives of the Crystal Township Land Use Plan are improvement in the quality of life for residents and the environment. These objectives are consistent with the goals and objectives identified and might best be summarized as planning to make the best of the assets that Crystal Township has and wishes to retain.

Beyond this categorized list, is the need for a commitment by the Township, dedicating the necessary resources for annual review of this Land Use Plan. This will enable the Planning Commission to track progress of implementation, while taking the pulse of the community to determine whether the goals are still appropriate and if additional goals should be added. Following are specific steps that are recommended to take following adoption of this Plan in order to ensure its implementation. The actions that are recommended will take effort and commitment on the part of Township Planning Commission, Township Board, and its residents.

Recommendations are not given in order of priority.

1. Develop incentives to encourage development in conformance with the Land Use Plan.
2. Increase cooperation and coordination between planning and zoning, and other Township organizations, committees, residents, and bordering jurisdictions. Land use long-range planning for Crystal Township should be coordinated with and amongst these groups.
3. Develop and revise, as needed, internal review policies and procedures for rezoning, annexation, subdivision, and site plan review to support the Land Use Plan.
4. Commitment to review the Land Use Plan annually, but at a minimum every five years as required by law.
5. A rich history symbolizes Crystal Township's heritage and helps to define Crystal Township as a special place to be in a beautiful natural setting, defined by the Pentwater River, Crystal Lake, National Forestland, hills, and farmland.

The plan should be consulted regularly, as it is a guide for land use decisions, and should be updated accordingly as the local situation warrants. It is important to note that change is inevitable, and managing that change will be the key to Crystal Township's success in the control of development and the desired build-out of the Township.

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