2030 Comprehensive Plan

THE CITY OF CRYSTAL LAKE



A GOOD PLACE TO LIVE

CITY COUNCIL

Aaron T. Shepley, Mayor
Ellen Brady-Mueller
Ralph M. Dawson
Cathy A. Ferguson
Brett Hopkins
Carolyn Schofield
Jeffrey T. Thorsen

PLANNING AND ZONING COMMISSION

Thomas Hayden, Chair
James Batastini
Vince Esposito
Darrel Gavle
David Goss
Jeff Greenman
Jim Jouron
Ann Lembke
Alan Skluzacek

Prepared by:
City of Crystal Lake
Planning and Economic Development Department

Adopted by:
Mayor and City Council
March 20, 2012

Prepared for:
The Citizens of Crystal Lake

Table of Contents

1. Introduction **1**
1.1 History of Crystal Lake 1
1.2 Purpose of a Comprehensive Plan 2
1.3 Plan Process and Amendment Process 4
1.4 Vision Statement 4

2. Community Profile **5**
2.1 Demographics 5
City Population
Household Information
2.2 City Limits 7
2.3 Quality of Life 7

3. Land Use **10**
3.1 Existing Land Uses 10
3.2 Correlation between Land Uses and Zoning 11
Table 3.2a Correlation between Land Uses and Zoning 13
3.3 Land Use Categories 12
3.4 Residential 15
3.5 Commerce 17
3.6 Office 19
3.7 Manufacturing 20
3.8 Open Space 21
3.9 Public / Semi-Public 22

4. Economic Development **24**
4.1 Background 24
4.2 Economic Characteristics 25
4.3 Revitalize and Enhance Key Commercial Areas 26
4.4 Attract and Retain Businesses 27
4.5 Attract Tourism, Meetings and Events 29
4.6 Grow the City's Tax Base 30
4.7 Increase Grant Revenues 31
4.8 Increase the Number of Jobs 32

5. Housing **33**
Demographics
5.1 Single-Family Housing 36
5.2 Multi-Family Housing 38
5.3 Affordable Housing 39
5.4 Green Building Practices 41

6. Transportation **42**
Roadway Classifications
6.1 Roadways 45
6.2 Metra Rail Service 47
6.3 Alternative Modes of Transportation 49
6.4 Transit Oriented Development 51

7. Unique Areas **53**
7.1 Downtown 54
7.2 Virginia Street Corridor 56
7.3 Three Oaks Recreation Area and Surrounding Properties 58

8. Parks and Recreation **60**
Crystal Lake Park District
City of Crystal Lake
8.1 Crystal Lake Park District 65
8.2 City Facilities 66

9. Historic Preservation **67**
Introduction
9.1 Landmark Program 68
9.2 Historic Downtown Crystal Lake 70
9.3 Historic Preservation Commission 72

10. Northwest Sub-Area **74**
Introduction
Existing Conditions
Exhibit A Northwest Sub-Area Location 75
Exhibit B Northwest Sub-Area Boundary 76
Natural Features
Exhibit C Northwest Sub-Area Natural Features 80
Current Zoning
Exhibit D Northwest Sub-Area Existing Zoning 82
10.1 Watershed Protection 83
Exhibit E Crystal Lake Watershed 86
10.2 Transportation 87
Exhibit F Northwest Sub-Area Transportation 90
10.3 Utilities 91
Exhibit G Northwest Sub-Area Utilities 92
10.4 Recreation 93
Exhibit H Northwest Sub-Area Recreational Opportunities 95
10.5 Smart Growth 96
Exhibit I Northwest Sub-Area Environment Preservation 101
Exhibit J Northwest Sub-Area Transfer of Development Rights 102

11. Green Infrastructure 103
Introduction and Purpose
Implementing Green Infrastructure in Crystal Lake
Mapping a Green Infrastructure Network in Crystal Lake
Green Infrastructure Elements
11.1 Crystal Lake Watershed 106
Crystal Lake Watershed Map 109
11.2 Upper Kishwaukee 110
Upper Kishwaukee Map 113
11.3 Sleepy Hollow and Silver Creek Watersheds 114
Sleepy Hollow Map 116
Silver Creek Map 117
11.4 Northeast Fen and Oak Stands 118
Northeast Fen and Oak Stands Map 121
11.5 Three Oaks Recreation Area 122
Three Oaks Recreation Area Map 125
11.6 Crystal Creek 126
Crystal Creek Map 127
11.7 Woods Creek 128
11.8 Bike Path 129
11.9 Glacial Potholes 130
11.10 Agriculture 131
11.11 Hydric Soils 132
11.12 Neighborhood and Site Strategies 133
Green Infrastructure Map 135
Exhibit 2 Green Infrastructure Map Active Recreation 138
Exhibit 3 Green Infrastructure Map Habitat Connections 139

12. Community Facilities 140
12.1 City Facilities 141
Map A City Facilities 145
12.2 Public Facilities 146
Map B Public Facilities 149



Chapter one

Introduction

Introduction

1.1 History of Crystal Lake

The Crystal Lake area's first European settlers, Beman and Polly Tuttle Crandall arrived in February 1836 with their six children, and discovered a sparkling clear lake, tall timber, and vast prairies. By August 1836, the U.S. government granted homestead rights to the Crandalls. At that time, an old trail, forged by the Sac and Fox tribes, extended from Fort Dearborn in Chicago to northwest Wisconsin, with the portion through Crystal Lake now known as Route 14. A log cabin inn, the Lyman-King House stood on Virginia Street near Pomeroy Avenue and served as a stage coach stop and trading post.

The Village of Crystal Lake was platted in 1840 by Beman Crandall, Christopher Walkup, and Abner Beardsley. At the time, the surveyors determined the boundaries to be Virginia Street to the north, Lake Avenue to the south; McHenry Avenue to the east; and Dole Avenue to the west.

The Village of Nunda, first known as Dearborn, then Brooklyn, was established in 1855, with the Chicago, St. Paul and Fond du Lac railroad (the track is now owned by Union Pacific), the first direct rail connection from Chicago. The train stop in the Village of Nunda established the town as the commercial hub of McHenry County. The street configuration of Crystal Lake's present downtown reflects the railroad's early influence. In 1856, a rail spur line (now Dole Avenue) was built from the Village of Nunda to Crystal Lake to transport ice cut from the lake to Chicago and to bring visitors from Chicago to the area.

Many public infrastructure improvements took place in the early years of the two villages. The Chicago Telephone Company received a right-of-way in 1883. In 1884, wooden sidewalks were constructed. The water system was built in the Village of Nunda in 1899 and in the Village of Crystal Lake in 1912. The Nunda Electric Company built a plant on Walkup Avenue, south of the Union Pacific track, in 1902. Western United Gas and Electric Company began operations in 1909. The city built the wastewater treatment system on McHenry Avenue, south of Barlina Road in 1919. Road paving became more prevalent in the community 1924 through 1929 with increasing use of the personal automobile.

Both villages incorporated in 1874. The Village of Nunda became North Crystal Lake in 1908. Consolidation of Crystal Lake and North Crystal Lake occurred on April 28, 1914. The City of Crystal Lake Charter was adopted on September 23, 1914.

Since World War II, the population and boundaries of the City of Crystal Lake have changed dramatically. Throughout the Chicago area, people have relocated farther from Chicago to places like Crystal Lake in search of more open space, less traffic, affordable land and safer neighborhoods. The very elements that attract people to Crystal Lake may be threatened if the future growth of the community is not well-planned. How and where certain land uses are located, availability to different means of transportation, recreational opportunities, preservation of open space and natural resources, are issues that the community will need to consider for the future and are key to the Crystal Lake continuing to be a "good place to live".

1.2 Purpose of a Comprehensive Plan

The first *Crystal Lake Comprehensive Land Use Plan* was adopted in 1957, with revisions in 1973, 1988 and 2001. Due to the extent of changes in the City and our world, it is time to update the plan so it will remain an accurate reflection of where the community is today and the overall vision concerning future growth and land development. Land Use decisions should focus on the interrelationship of transportation, land use and housing. This document is a culmination of the efforts of Crystal Lake's residents and businesses, the Planning and Zoning Commission, the City Council and City staff.

The Illinois Compiled State Statutes (65 ILCS 5/11-12-7) provides no criterion for communities on the specific content for comprehensive plans, however, most communities offer guidelines for general categories such as land use, transportation, natural resources, community facilities, housing, and economic development.

This document, the *2030 Comprehensive Plan* (Plan), is a broad-based document which describes how and at what pace the community desires to develop physically, economically and socially over the long-range. It serves as a guide for citizens, developers and the city, in managing the evolution and growth of the community, and as a basis for policy decisions, for approximately the next 20 years.

In brief, a comprehensive land use plan is:

Physical. It is a guide to physical development of the community.

Long Range. It defines current policy to help shape the future in the shared vision.

Comprehensive. It covers the entire community including transportation, housing, land use, utilities and facilities, environment, and recreation.

Statement of Policy. It lists policies about the community's desire as to quantity, quality, character, location and rate of growth and how to achieve this.

Guide to Decision Making. As a policy guide, it should not be updated too casually or too frequently or it may lose its focus and long-range vision.

Fiscally Feasible. The projected costs to implement the plan are reasonable.

Legally Sound. The policies, goals and objectives must have a rational foundation with accurate inventories, historical trends and future projections.

Dynamic. The plan should reflect identifiable changes as they occur in the community.

The Plan provides a number of features that distinguishes it from other comprehensive plans:

- The Plan provides interconnected strategies to keep solutions linked together to create the most powerful outcomes.
- The Plan provides a unified strategic direction to guide decisions, investments and community action for the long term.
- The Plan provides criteria for making decisions when future opportunities or crises present themselves, enabling all decision-makers to stay on this strategic course and solve problems in context rather than in isolation.
- The Plan also contains a Plan Evaluation and Monitoring section. The intent of this section is to ensure that the goals and objectives are still relevant, are being accomplished and that the community is addressing changes occurring from shifts in established priorities for the city if certain objectives are no longer appropriate.

The Plan is divided into elements which are areas of interest to be considered in planning for the future growth of Crystal Lake. Each element is described based on the current state of the city and then explored for the future of the element. At the end of each section goals, objectives and policy is listed in order to have a process on how to work to achieve the planned future of that element.

Definitions of the various components of the Plan elements are as follows:

A goal is the purpose towards which an endeavor is directed; the expression of values.

A supporting action is a specific target established to achieve a goal.

A success indicator is a specific item that can be measured to determine if the action has been achieved to assist in implementing the Plan.

The policies are to be enacted by a participant, which is a public (government or quasi-government) or private (business or non-profit) entity involved with the implementation of the Plan. The way

the policies would be enforced is through project reviews. A project is an undertaking requiring participant action to implement the Plan. Final actions on properties are adopted by Ordinance. An ordinance is a regulation enacted by the City Council or other governmental authority to enforce a specific action concerning the implementation of the Plan.

1.3 Comprehensive Plan Adoption and Amendment Process

Adoption

The Comprehensive Plan is adopted with input from all stakeholders, including, elected or appointed officials, business and environmental groups and citizens of Crystal Lake. The plan is adopted after several public meetings, an open house, and an official public hearing. Public input is a major contributing factor in the final quality and usefulness of the adopted Plan. The benefit of public participation is to help the two decision-making bodies involved, the Planning and Zoning Commission and the City Council, make the best plan to shape the future of the community. Decisions that reflect the understanding of public attitudes and needs make it more likely that future development proposals are planned with the interests of the community in mind.

The Planning and Zoning Commission is a nine-member board, consisting of volunteers that make recommendations on land use and development proposals. They are also charged with the responsibility to make recommendations on any changes or updates to the Comprehensive Plan. Typically, one meeting a year is dedicated to the monitoring and evaluation of the Plan. The monitoring and evaluation process is meant to assess and respond to the changes that can occur from the shifts in the community's priorities, the changes in the business climate and future opportunities that present themselves.

The City Council is comprised of seven elected officials who consider the Planning and Zoning Commission's recommendations and community input, before formally adopting the Plan. Both bodies carefully weigh public input and information from city staff in the decision-making process.

As a way to better garner public input for the Plan, a public survey option was placed on the City's website. The website also listed all the draft chapters as they were completed and a timeline of the process. Five display boards for the proposed map amendment areas were located throughout the City at the Library, Downtown Metra Station, Three Oaks Recreation Area, Crystal Lake Park District Offices and City Hall. Accompanying these boards were public input surveys, which asked questions about land uses.

1.4 Vision Statement

The 2030 Comprehensive Plan's vision is to sustain a prosperous and economically balanced community through the combination of all the plan elements including land use decisions, economic development, housing, transportation options, developing and preserving the unique areas, parks and recreation, environmental resources, historic preservation and community facilities. The combination of these elements through the decision making processes will allow the city to remain a good place to live.



Chapter two

Community Profile

2.1 Demographic Information

City Population

The City of Crystal Lake has a total population of 40,743 based on the 2010 Census. This population is expected to continue to slowly rise as more people discover this beautiful area and relocate here. The City still has available land which can be developed as residential land uses. In addition, many older areas are prime for redevelopment and infill development. The following chart illustrate the current distribution of the City population.

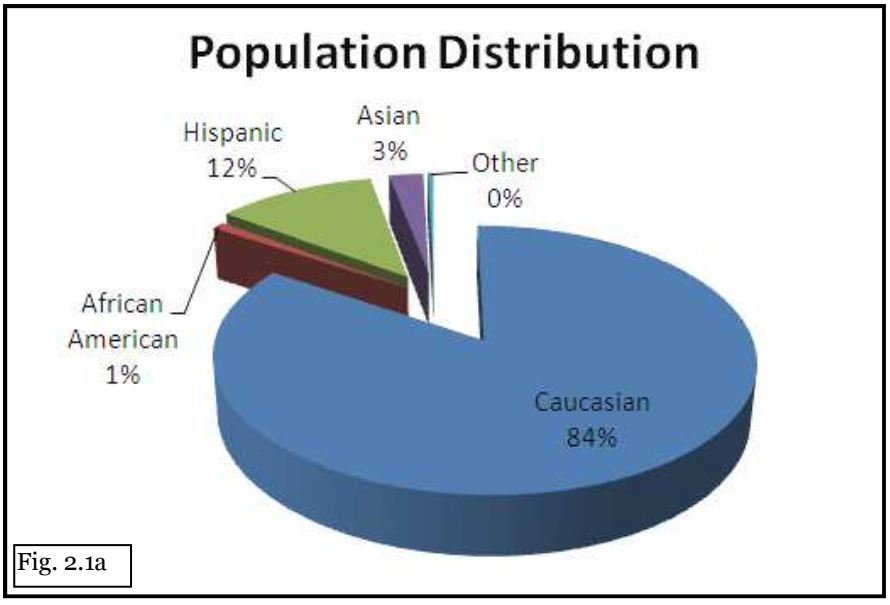


Fig. 2.1a

Household Information

The City has a total of 14,894* housing units, the majority of which are owner occupied single family houses. The rental units are a combination of single-family, duplex, apartment and condominium units. The chart below shows there are about two-thirds the number of single-family owner occupied housing as rental housing.

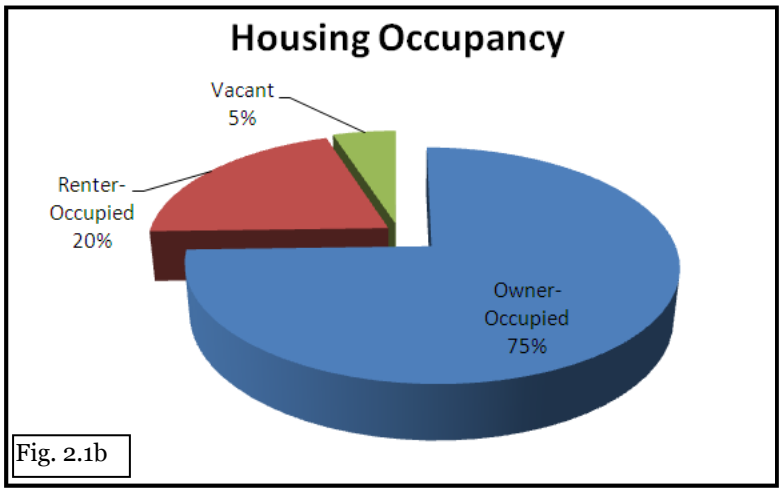


Fig. 2.1b

Crystal Lake's median household income is $74,663 ⌂. This is above the median income for McHenry County and for the State of Illinois. Crystal Lake's higher median income level is key to attracting retail tenants. The income level also points to the value of homes in the area.

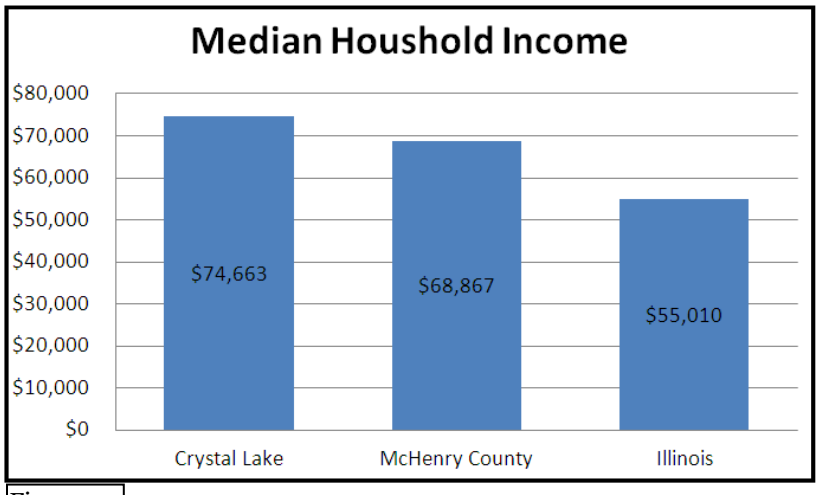
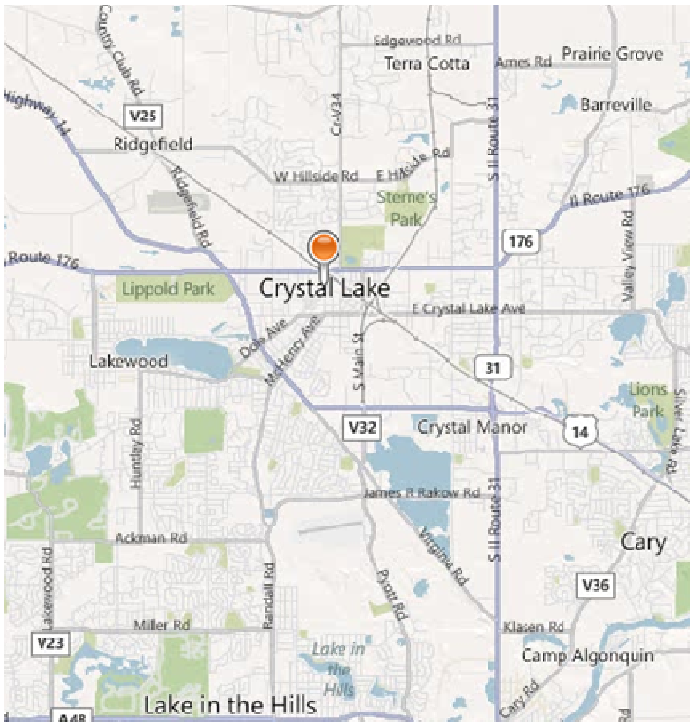


Fig. 2.1c

*Population, household and income demographic information has been obtained through the US Census Bureau 2010 American Fact Finder data.
⌂ Household income information was obtained through the US Census Bureau 2006-2008 American Community Survey 3-year estimates.

2.2 City Limits / Boundary Line Agreements

Crystal Lake has established boundary line agreements with the neighboring communities including Woodstock, Lakewood and Lake in the Hills. Our current City limits abut Cary on the southeast and Prairie Grove to the north-east. Bull Valley is a few miles north of the City.



2.3 Quality of Life

The City of Crystal Lake is committed to continuing the high quality of life enjoyed by the citizens and businesses of the Crystal Lake community.

Crystal Lake is located 50 miles northwest of Chicago, a short drive from O'Hare International Airport and near several major highways and interstates. The Union Pacific rail line provides easy access to Chicago. As a result, Crystal Lake residents enjoy the many employment, cultural and recreational opportunities of a major metro city, yet live in a pleasant, friendly, small-town atmosphere.

Beginning in the 1970's, Crystal Lake experienced significant changes in both its residential and business population. The population has grown from 14,000 in the early 1970's to over 40,000 today.

The local job market continues to expand. With this expansion, citizens have access to excellent educational, recreational and cultural activities. Crystal Lake boasts two of the very best public school systems in the region - Elementary School District 47 and Community High School District 155. Citizens are also served by the parochial grade schools and the ever-expanding McHenry County College is on Crystal Lake's northern border.

Crystal Lake is truly a great place to live and work and it's also a great place to play! One of Crystal Lake's greatest attractions is its public parks system. This includes over 1,400 acres of parks and open space as well as 230-acre Crystal Lake for fishing, boating, swimming, skating in the winter...it's truly year-round fun! The City also owns and operates Three Oaks Recreation Area, a 500-acre spring fed lake, with a marina, lake house, picnic grove, sled hill and natural area and trails.

The City staff and elected officials are dedicated to continuing to make Crystal Lake one of the premier communities in northern Illinois.

Goal and Objectives

2.3 Quality of Life



Historic Dole Mansion today.



Dole Mansion, photo taken in 1983 prior to Charles Doles' daughter's wedding on the property. www.lakesidelegacy.org.

Goal: Encourage a diversity of high quality housing in appropriate locations throughout the city that supports a variety of lifestyles and invigorates community character.

	Supporting Actions	Success Indicators
2.3a	Foster the cultural arts.	Support for Lakeside Legacy Arts Park. Support for the Raue Center for the Arts. The establishment of a City art program.
2.3b	Cooperate with Main Street Crystal Lake, the Park District and other service organizations in the promotion of events that highlight Crystal Lake's heritage and cultural resources.	The City's support of annual events such as, the Johnny Appleseed Festival, Heritage Trolley Tour, Lakeside Festival, Cardboard Cup Regatta, and similar events.
2.3c	Encourage, monitor and promote a variety of recreational opportunities within the community.	Support the Park District's Master Plan. The City's maintenance of Three Oaks Recreation Area. The number of new open space sites created in new developments.
2.3d	Promote Crystal Lake as a good and safe location for high quality educational facilities.	Support District 47 and District 155 as well as MCC and their activities. Support private educational facilities.
2.3e	Attract businesses that provide a diversity of employment opportunities and customer services.	Number of new business occupancies. The support of job training facilities. Number of new jobs created.

Snapshot

Crystal Lake, Illinois



Location: McHenry County
50 miles from the City of Chicago
34 miles from O'Hare International Airport

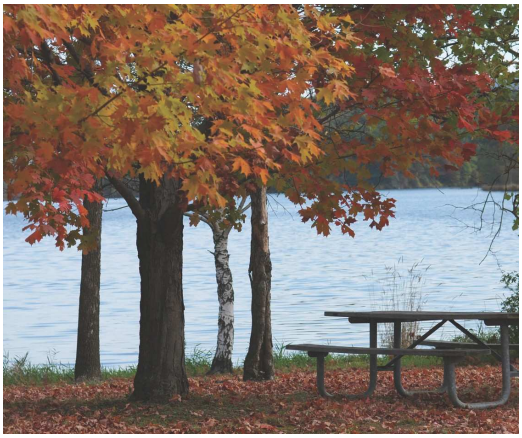
Population: 40,743 people

Households: 14,894

Average Household Income: $74,663

Schools: 12,390 children enrolled in the schools

- District 47 Elementary and Junior High 13 schools
- District 155 High School 3 schools



Crystal Lake Park District: 42 park areas
1,400 acres

Retail: $1.9 mil demand

Average household spends $35,873 annually.

Employment: Within the City there are a variety of employment opportunities, listed are the top 5 employers.

1. Curran Group (paving, industrial) 1500 employees
2. Crystal Lake District 47 788 employees
3. Crystal Lake Park District 492 employees
4. Crystal Lake District 155 409 employees
5. Covidien (healthcare) 402 employees

www.currancontracting.com





Chapter three

Land Use

Introduction

The Land Use element of this Plan helps guide the future growth and development of the community. It allows the city and residents to monitor the various land use types to ensure a proper balance is being maintained. The Land Use element is important as it sets the development patterns that could affect many of the other element sections throughout the Plan. The overall goal for this element section is to provide a healthy mix of land uses to allow Crystal Lake to remain a good place to live, work and play. Each specific land use category has its own set of goals, objectives and policies.

3.1 Existing Land Use

Crystal Lake is about 19.5 square miles and has ten land use categories; agriculture/rural, estate and urban residential are classified as single-family residential, multi-family residential that combines central urban and high density residential, parks and open space, public and semi public, commerce, office, and manufacturing. There is also some vacant land. The following chart identifies the City's current land use distribution.

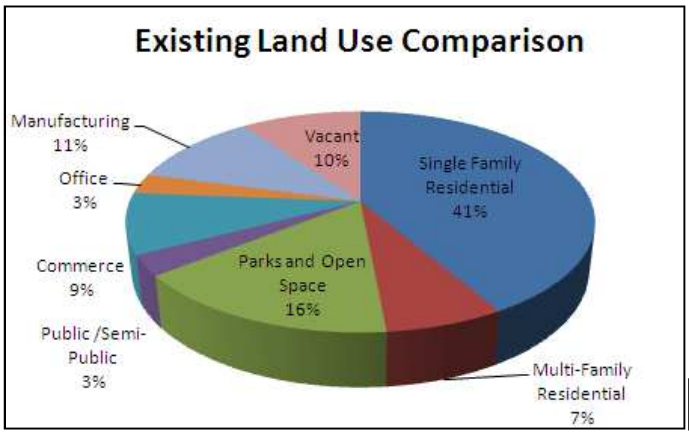


Fig. 3.1a

Encompassing 49% of the city is the residential land uses, with 42% of this being single-family. The residential land uses are distributed within six zoning districts. The majority of the residential land use areas are located in the center and western side of the City away from the industry and commercial areas. Prior to the 1950s, the city was a farming community developed with estate homes on small farm plots. It also had a number of resort houses built around Crystal Lake. As more people began to settle here permanently, a variety of residential uses became necessary. Crystal Lake is now a regional hub providing housing for people who work in the area as well as in Chicago and Wisconsin.

Commerce, Office and Manufacturing is 23% of the City's total land use. These three land uses are crucial in keeping a balance between the residential needs and business services. The Office land use allows for professional office development. Many of the skilled professionals that work in Crystal Lake also live here. This land use is also necessary to keep a healthy daytime population which supports the retail and restaurant uses. Manufacturing at 11% is the largest portion of the business uses. This is due to the nature of manufacturing which requires large properties for buildings, storage and possible rail access.

Open Space is the next largest land use category with 16%. Open space includes public and private recreation areas. Crystal Lake's two main water features are Crystal Lake and Three Oaks Recreation Area. The Crystal Lake Park District also maintains 41 parks throughout the City. Currently, there are a number of natural resources located in the Northwest Sub-Area which are counted as part of the underlying zoning district as these resources are on private property. The City will work to ensure that these are preserved and put into easements for future protection and will be recalculated to be included in the open space land use category or as a separate category for environmental features.

Public/Semi-Public land use is the property owned by a municipality or other government agency. Primarily, this is city, Park District and school district owned property. There are nine elementary schools, three junior high schools and three high schools in the City. Other community facilities include the Library, City Hall, utility facilities and company offices. Public/Semi-Public land uses only make up 3% of the city's total land use.

Vacant land use is a holding land use category. All of the property within the City's boundaries has an underlying zoning district. The City intends to grow smarter in the future limiting large lot single family uses far away from the City center or any services or utilities. Much of this vacant land is in the Northwest Sub-Area and under the Conservation Overlay District. Within the Conservation Overlay District standards are requirements for cluster development, transfer of development rights, preservation of natural resources, and mixed-use development.

3.2 Correlation between Land Use and Zoning

In order to link the Unified Development Ordinance with the Comprehensive Plan, there needs to be a correlation between land use categories and the underlying zoning districts. The chart on the following page provides the correlation between the broad based land use categories and the specific zoning districts.

A variety of zoning districts are able to be within each of the land use designations. This allows for flexibility in producing well rounded neighborhoods and allows the Comprehensive Plan to remain broad based.

The 2030 Comprehensive Land Use Plan illustrates 11 Land Use Designations; Agriculture/Rural Residential, Estate Residential, Urban Residential, High Density Residential, Central Urban Residential, Commerce, Office, Industry, Parks and Open Space, Public/Semi-Public and Mixed-Use.

With this Plan update, a new land use district has been be created for Mixed Use. Mixed Use allows for a blend of commercial, office and residential uses. The mix of uses may be on one lot such as vertical uses with retail on the first floor and office or residential above. It may also be horizontal development with some areas of the development having retail uses and other lots developed with residential uses. There are three locations that are recommended to support this land use. The first is near Three Oaks Recreation Area where there are redevelopment opportunities. The second is the properties at Crystal Lake Avenue and Main Street where higher density residential and commercial uses would complement the Downtown area. The third location is the existing downtown. There are currently a variety of uses including second-story residential.

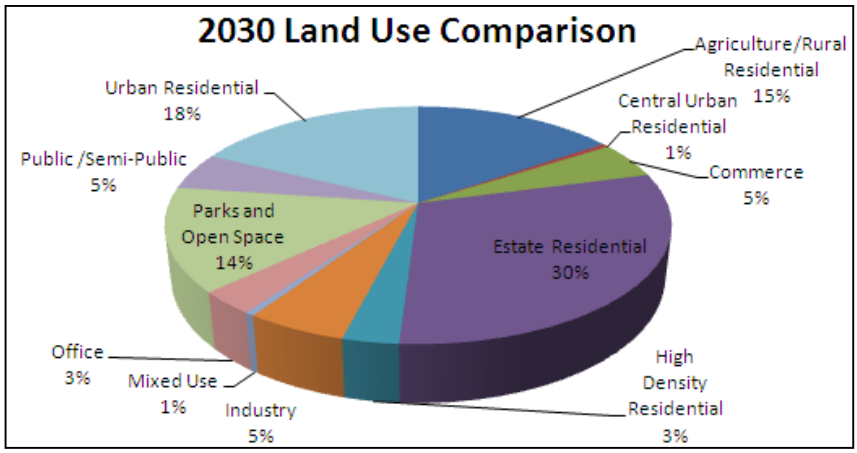
The City has 14 zoning districts; F Farming, E Estate, RE Residential Estate, R-1 Single Family Residential, R-2 Single Family Residential, R-3A Two Family Residential, R-3B Multi-Family Residential, B-1 Neighborhood Business, B-2 General Commercial, B-4 Downtown Business, O Office, M-L Manufacturing Limited, M Manufacturing, and W Watershed.

There are also two overlay zoning districts. The Conservation Overlay District generally covers properties in the Northwest Sub-Area and the Crystal Lake Watershed. The Virginia Street Corridor Overlay District covers properties in the Virginia Street TIF Corridor.

3.3 Land Use Categories

Establishing and maintaining a variety of land use categories is paramount in keeping the City well balanced for residents and visitors, employers and employees, and consumers and providers. After the establishment of the Land Use Map, careful review needs to occur when any changes to the map are proposed or at the annual comprehensive plan review.

The new land use map illustrates the following breakdown in land use percentages for the city.



Residential Single Family Residence ➢ Agriculture/Rural Residential ➢ Estate Residential ➢ Urban Residential	**F** Farming **E** Estate **RE** Residential Estate **R-1** Single-Family **R-2** Single Family **W** Watershed
Multi-Family Residence ➢ High Density Residential	**R-3A** Two Family **R-3B** Multi-Family **W** Watershed
Mixed Use ➢ Central Urban Residential ➢ Mixed-Use	**R-2** Single Family **R-3A** Two-Family **R-3B** Multi-Family **B-4** Downtown Business **W** Watershed
Non-Residential Commercial ➢ Commerce	**B-1** Neighborhood Business **B-2** General Commercial **B-4** Downtown Business **W** Watershed
Office ➢ Office	**O** Office **W** Watershed
Industry ➢ Manufacturing	**M-L** Manufacturing Limited **M** Manufacturing
Open Space/ Natural Resources ➢ Agriculture ➢ Parks and Open Space	**F** Farming Various other zoning districts depending on the open space
Civic Community Facilities ➢ Public and Semi-Public	Various zoning districts
Mixed Use ➢ Mixed Use	**B-1** Neighborhood Business **B-2** General Commercial **B-4** Downtown Business **O** Office **W** Watershed

Main Goal: **Balance the various land uses within the city to create more compact, mixed-use livable neighborhoods while providing a variety of housing, jobs, transportation options and business services**.

	Supporting Actions	Success Indicators
3.3a1	Create an appropriate mix of land uses throughout the City.	Adoption of a Comprehensive Plan Land Use Map that allocates sufficient area to all 11 different land use designations.
3.3a2	Maintain compatibility with adjacent land uses throughout the City and with neighboring communities.	Approval of zoning requests which comply with the adopted Comprehensive Plan Land Use Map. Approval of zoning requests that comply with boundary line agreements or complement neighboring community land use designations.
3.3a3	Allow for compact and mixed-use growth.	Approval of mixed-use projects through the PUD process. Establishment of a Conservation Overlay designation.
3.3a4	Encourage smart growth and green development.	Approval of projects that are developed according to the Conservation Overlay designation. Approval of projects that utilize the PUD process to create TOD or mixed-use walk able projects.

Key Element Details, Actions and Indicators

3.4 Residential





Goal:

Encourage a diversity of high quality housing in appropriate locations throughout the city that supports a variety of lifestyles and invigorates community character.

Residential land use is the dominant use in the City with over 5,000 acres. The Plan divides residential land use into 5 subset categories; Agriculture/Rural Residential (extremely low density primarily for residential farms), Estate Residential (low density lots of 3 acre+), Urban Residential (primarily single-family lots of ¼ acre and some lower density multi-family housing), Central Urban Residential (housing near the Downtown with different densities of single-family and multi-family) and High Density Residential (multi-family housing with densities of 5 units per acre or more). Urban Residential is the most prevalent category among the residential land uses.

The city needs to ensure there is an appropriate mix of housing types throughout the city. This Plan can be used to check the balance among the housing types as well as how residential land use is balanced with the other land uses.

The following table illustrates the average density ranges for each land use designation. The density, lot size, setbacks, FAR and other bulk standards are set by the Unified Development Ordinance.

Agriculture / Rural Residential	1/5 dwelling unit per acre or less
Estate Residential	1/3 dwelling unit per acre
Urban Residential	1-4 dwelling units per acre
Central Urban Residential	4-6 dwelling units per acre
High Density Residential	6-10 dwelling units per acre

	Supporting Actions	Success Indicators
3.4a	Encourage a diversity of housing types throughout the city, which satisfy wide-range needs for all persons regardless of age, race, religion, national origin, physical ability and economic level for existing and future city residents.	Approval of single-family residential developments. Approval of multi-family residential developments. Approval of senior living developments. Approval of assisted living developments. Approval of work force housing developments.
3.4b	Preserve and enhance the character and livability of existing residential area with architectural and development guidelines.	The adoption of a Neighborhood Overlay District. The use of the Pattern Book in reviewing residential building permit submittals..
3.4c	Provide for a reasonable rate of residential growth especially infill growth and mixed-use development which take advantage of existing city services.	Approval of minor subdivisions to increase infill lot potential. Number of building permits issued for new construction on infill lots. Retention of second story dwellings in Downtown.
3.4d	Promote safe, clean and well-maintained housing by encouraging regular repair and maintenance of housing.	The number of code compliance calls annually on residential properties. The number of adjudication fines for residential properties.

Key Element Details, Actions and Indicators

3.5 Commerce





Goal:

Maintain a dynamic and sustainable base of commercial uses that provides a solid tax base, goods, services and jobs to the city as well as the surrounding region through coordination in the Unified Development Ordinance, Comprehensive Land Use Plan and Economic Development Strategic Plan.

Commercial land uses are a vital component for the city's economic health. Commercial uses provide goods, services and jobs to residents and people in the surrounding communities. Commercial land use makes up 9% of the City's total land use.

The City has two significant commercial corridors, a minor commercial corridor and a downtown commercial area. The most significant commercial corridor is Illinois Route 14, also known as Virginia Street or Northwest Highway, which runs for over 7 miles through the City. Nearly every property along this stretch of roadway is zoned commercial or office. The second corridor is Illinois Route 31, which runs from the Wisconsin border to Oswego for over 58 miles and carries a significant amount of traffic and goods. Slightly over 4 miles of Route 31 is within the City's boundary. Both of these commercial corridors give the City significant opportunity to attract a variety of retail and service providers including big boxes and supercenters. Illinois Route 176 is a minor commercial corridor containing a mix of residential, industrial, commercial and office zoned properties. Route 176 could become more of a commercial corridor in the future, but there is a desire to protect open space view corridors on either side of the roadway as you travel westward. The City is also extremely lucky to have a healthy and vibrant Downtown. Within the Downtown retail area there is approximately 470,000 gross square feet of leasable area for retail, service and office uses. Downtown begins just south of Crystal Lake Avenue between Walkup Avenue and Main streets and runs north, taking in both sides of Walkup Avenue and Main Street, to Gates and Sherman Avenue. Downtown has significant historic buildings and is unique enough to warrant its own Downtown Comprehensive Plan included in the Appendix of this document.

	Supporting Actions	Success Indicators
3.5a	Promote, retain and attract businesses that provide a diverse tax base.	The number of new "chain store" occupancies. The number of new "mom & pop" / small independent business occupancies. Continued operation and maintenance of the I Shop Crystal Lake website.
3.5b	Encourage mixed-use developments that allow people to live, work and play in the same area, as well as support the transfer of goods and services between businesses and limit the number of traffic trips generated.	The number of mixed-use development projects constructed. The redevelopment of Crystal Court. The number of properties zoned neighborhood commercial as reviewed annually. The number of cross-access and shared parking agreements between businesses.
3.5c	Promote developments that conserve open space and unique natural features, provide for efficient internal circulation, and encourage quality landscaping and building design.	The number of conservation subdivisions approved. The number of LEED buildings constructed. The number of LEED sites developed.
3.5d	Encourage pedestrian amenities; such as bike racks and benches, and wider walkways, lighting and way-finding signage to encourage alternative means of accessing commercial sites.	New sidewalks, street furniture, lighting and landscape installed through the Virginia Street Corridor streetscape project. The installation of Downtown way-finding signage. The installation of bike racks at commercial developments.

Key Element Details, Actions and Indicators

3.6 Office





Goal:

Maintain and expand the availability of professional and research office in appropriate locations throughout the city to complement commercial and manufacturing uses.

Providing jobs for residents and members of the surrounding communities is critical to establishing a healthy daytime population, promoting a live, work, play environment and encouraging a skilled workforce. Office land use typically allows for professional services and some research uses. While some office uses can be found in some of the commercial areas, most are found along McHenry Avenue, Virginia Street, Route 176 and Downtown. These areas are expected to remain strong vital office locations.

	Supporting Actions	Success Indicators
3.6a	Encourage office development along major roadways, near transit stops and bicycle routes, and in proximity to residential uses.	The number of new office occupancies. The number of properties zoned office as reviewed annually

Key Element Details, Actions and Indicators

3.7 Industry



Goal:

Support manufacturing uses within the community which contribute to the regional and local economy and Crystal Lake's live, work, play philosophy.

Industrial land use is the third largest land use in the City. The previous Comprehensive Plan land use map showed more manufacturing (industrial) land use, due to the former Vulcan Material and Meyer Material mining operations located around Rakow Road. These mining operations have since ceased so the land use has changed. Crystal Lake is fortunate to have a Union Pacific Railroad line running northwest/southeast through the City as well as a spur line running north to the City of McHenry. Most of the City's manufacturing users are located along these rail lines. As manufacturing uses ship goods in and out of the area it creates links between businesses throughout the region and nationally.

Manufacturing users require a skilled labor pool and can bring residents and employees into the area or hire from the local population providing stability to the City. The manufacturing land use is most appropriate along rail lines, major transportation corridors and adjacent to other undesirable land uses. Because of the benefits of manufacturing land uses it is important to ensure that they are protected and do not create conflict between other less intense land uses.

	Supporting Actions	Success Indicators
3.7a	Expand and attract manufacturing users which provide jobs, services, and products strengthening the City's economy	The number of new manufacturing company occupancies. The number of properties zoned manufacturing as reviewed annually.
3.7b	Encourage the redevelopment of "brownfield" sites, underused or abandoned manufacturing properties in the City, and reuse already existing structures or draw upon existing infrastructure.	The number of new tenant occupancies in existing buildings.
3.7c	Encourage businesses to adhere to regular maintenance of grounds and structure to maintain compliance with codes and ordinances.	The number of code violations issued to manufacturing properties. The number of annual pre-treatment inspections.

Key Element Details, Actions and Indicators

3.8 Open Space





Goal:

Preserve, protect and enhance the City's open space and natural resources, through cooperative efforts with land owners, developers and conservancy groups.

There is a growing awareness and appreciation of the importance of open space and natural resources in determining the quality of life in the city. The Plan places an emphasis on the stewardship of the area's open space and natural resources. Maintaining a sustainable live, work, play community requires a balance between developed land uses and undeveloped land uses, such as open space and natural resources.

	Supporting Actions	Success Indicators
3.8a	Large area of open space or natural areas should be preserved or created, in concert with cluster development or through a Transfer of Development Rights agreement.	The number of conservation subdivisions developed. The number of Transfer of Development Agreements executed. The number of properties donated or put into a conservation easement to a conservation group like MCCD, Openlands, Environmental Defenders of McHenry County, etc.
3.8b	Establish programs or policies which lead to better open space planning and natural resource preservation.	Adoption of the Green Infrastructure Vision plan. The coordination with the Park District on parks and open space projects.

Key Element Details, Actions and Indicators

3.9 Public and Semi-Public



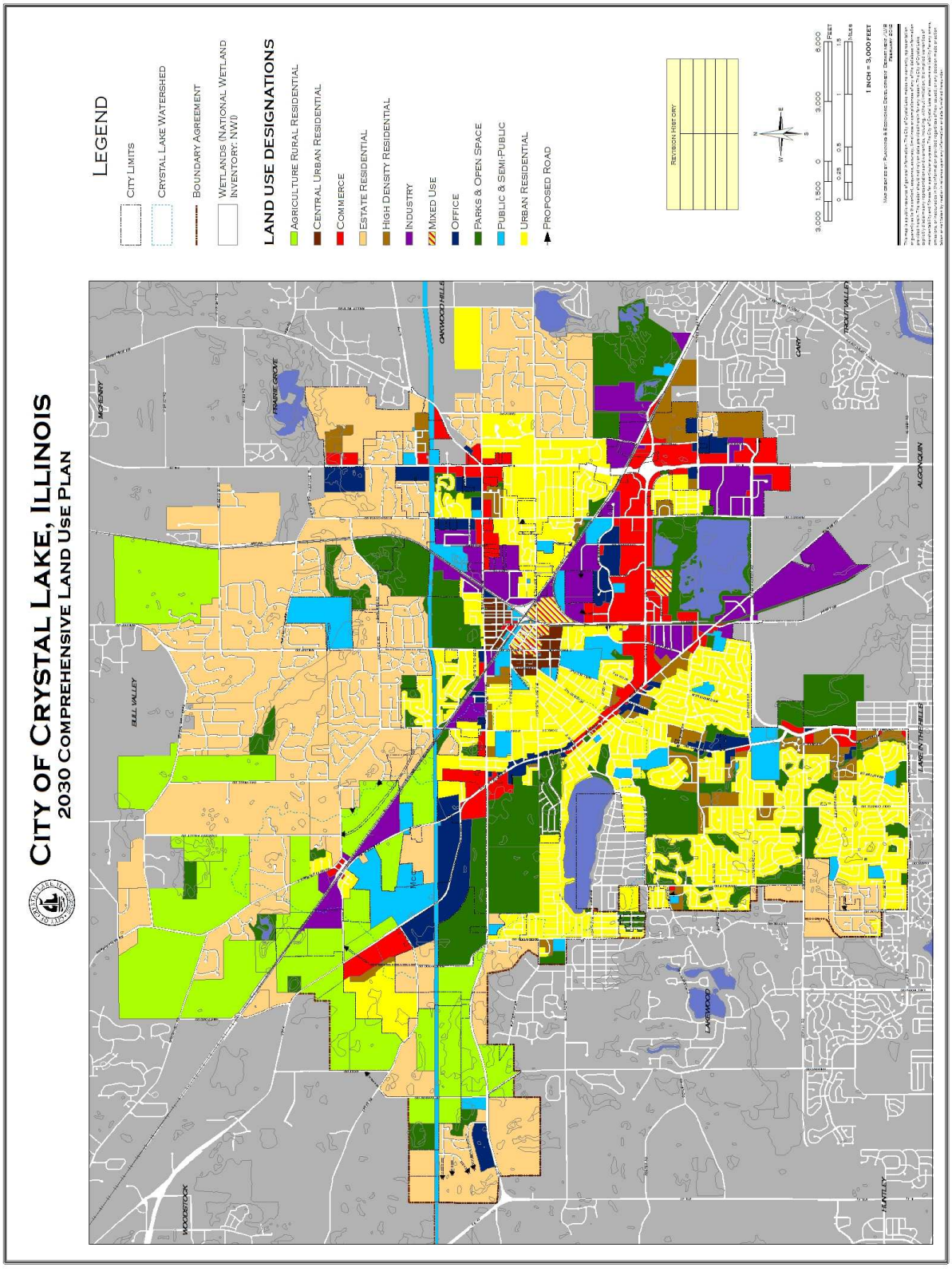
Goal:

Provide area for high quality public and semi-public facilities, such as schools, libraries, municipal facilities and private service providers, throughout the city to support the diverse and evolving needs of people in the city.

Public and Semi-Public uses are located throughout the city and are meant to serve the community in numerous ways. Public facilities are described as schools, libraries, park district facilities, as well as municipal services, such as fire rescue, police and administration. These uses are managed by separate public entities, each of which are funded separately through tax dollars and other revenues. Semi-Public uses include utilities, such as telephone and electric, hospitals and civic organizations. Public and Semi-Public facilities themselves are further discussed in the Community Facilities section of this plan.

	Supporting Actions	Success Indicators
3.9a	The City shall support the school districts, library, park district, neighboring municipalities, private service providers and other public and semi-public agencies.	The annual evaluation of impact fees for schools, parks, libraries and municipal services, to ensure that fees keep pace with relative costs. The number of zoning approvals for public/semi-public projects.

The variety and balance among the land uses is important and necessary to allow Crystal Lake to grow into a sustainable community providing jobs, services, recreation, products, employment and housing to the community.



(The full size Land Use Map is attached to the end of this document.)



Chapter four

Economic Vitality

Introduction

4.1 Economic Development

Crystal Lake is a mature City with a strong business community, stable residential population, excellent school system and numerous recreation amenities. Maintaining a strong economic development process is critical in maintaining a strong community. Economic Development is a multi-tiered policy to maintaining a sustainable tax base and a sufficient number of service and goods providers. The City conducts economic development activities in three ways; Retention, Attraction, and Promotion.

- ***Retention*** *focuses on customer service and assistance to existing businesses. Retention is extremely important to maintaining retail and service providers in the City.*

- ***Attraction*** *is the pro-active process of contacting retailers, service providers, office and manufacturing businesses and providing site information for vacant or unoccupied properties. The attraction process allows staff to target expanding businesses and provide information about the advantages of locating in Crystal Lake.*

- ***Promotion*** *of the City through economic development events as well as other events draws residents and visitors to shopping destinations helping get people to the businesses*

Effective economic development is a dynamic process that requires constant attention. Retention, attraction and promotion activities require multiple steps to achieve the objectives and policies. Economic development strategies must be combined with land use, housing, transportation, historic preservation and environmental decisions. All of these elements need to be balanced to maintain the City's high quality of life.

The City continues to build upon and diversify its current economic base by working cooperatively with proposed and existing businesses through the development review process. The City should acknowledge and appreciate the power of choice that is afforded to the business sector and recognize the efforts that are being made by the City to attract and support high quality commercial developments in key business sectors.

4.2 Economic Characteristics

The City has a population of 40,743 people, approximately 22,300 of these residents are in the workforce. The American Community Survey 3-year estimates list that the average commute time to work was 32 minutes with 83% of commuters driving alone. Crystal Lake's daytime population is 46,783. The daytime population is calculated by how many people are employed within the City. This daytime population is slightly higher than the regular resident population meaning that although some residents must commute outside the City to find work; many others are coming in to work. A healthy daytime population helps support the retail, restaurant and service establishments in the City. The City's largest employers are manufacturing plants, offices and the school districts.

Key Objectives

Crystal Lake has identified key long-term objectives to promote economic vitality. These key objectives are:

4.3 Revitalize and enhance key commercial areas
4.4 Attract and retain business
4.5 Attract tourism, meetings and events
4.6 Grow the City's tax base
4.7 Increase grant revenues
4.8 Increase the number of jobs

Each of these long-term objectives is supported by specific actions and defined success indicators detailed below. The effective implementation of these key strategies will help support economic vitality throughout the Crystal Lake community

Element Goals, Actions and Indicators

4.3 Revitalize and Enhance Key Commercial Areas



Former Crystal Lake Home Furnishings store in the Virginia Street Corridor





Same property after the streetscape project improvements. Increased pedestrian safety with wider sidewalks, decorative walkways, and enhanced lighting.

Goal:

Establish funding sources and work with property owners to assist with and encourage the redevelopment of commercial areas.

Major streetscape improvements have been completed for the Virginia Street Corridor as part of that TIF District. Redevelopment projects along the Route 14 corridor are an important goal. In addition, the City is in the process of planning a Route 14 Corridor Enhancement Program with aesthetic design elements including way finding signage. Improvement to the aesthetics and pedestrian environment of commercial corridors improves their visibility and increases redevelopment and retail sales traffic.

	Supporting Actions	Success Indicators
4.3a	Redevelopment of Crystal Court Shopping Center.	Completion of the site redevelopment.
4.3b	Redevelopment of Route 14 parcels at the gateway to Three Oaks Recreation Area.	Number of new occupancy permits for existing businesses. Number of permits for redevelopment of the properties.
4.3c	Virginia Street Corridor Façade Enhancement Program.	Adoption of the program by the City.
4.3d	Route 14 Corridor Enhancements.	The completion of the Virginia Street Corridor Streetscape Project. The completion of the Route 14 gateway project.
4.3e	Pedestrian Access Plan for commercial corridors.	The completion of the plan.

Element Goals, Actions and Indicators

4.4 Attract and Retain Businesses



Jameson's Charhouse interior dining room

Goal:

Establish marketing efforts to attract and retain businesses throughout the City.

Established economic development programs attract private sector investment and job creation. These include increased marketing efforts focused on the City's strongest growth sectors. New marketing materials and additional outside resources have increased staff effectiveness. The continuation of these programs to reach out to existing businesses and attract new businesses continues to be an effective way to maintain Crystal Lake's economic stability.

	Supporting Actions	Success Indicators
4.4a	Continue to solicit businesses in the City's strongest growth sectors.	The number of education, manufacturing/ distribution, "green" and retail businesses contacted, started and/or relocated.
4.4b	Develop specific green business recruitment and expansion strategies.	The completion of a Green Business Strategic Plan.
4.4c	Increase marketing efforts at ICSC trade shows.	The number of ICSC trade shows attended. The number of new contacts made.
4.4d	Continue to solicit the retail businesses which are most likely to succeed in various retail nodes in Crystal Lake.	The number of retail businesses—grocery, restaurants, coffee/juice shops, apparel, electronics, comparison goods— contacted, started and/or relocated.

	Supporting Actions	Success Indicators
4.4e	Continue to collaborate with the Downtown Crystal Lake/Main Street Program to develop area-specific marketing strategies	The number of events held. The number of merchants involved with marketing of the events.
4.4f	Continue to collaborate with the Economic Development Commission and other stakeholders on the development and refinement of economic development strategies, policies and activities.	Number of Economic Development activities held, policies developed and/ or refined and strategies implemented.
4.4g	Create a "Small Business Assistance Center" for direct services to small businesses and referrals to other resources.	The creation of a Small Business Assistance Center. Small Business assistance information available on the City's website.
4.4h	Research Business Improvement Districts.	Compilation of Business Improvement District information. Creation of a Business Improvement District.
4.4i	Maintain I Shop Crystal Lake activities.	Maintenance and expansion of I Shop CL Program. Maintenance and expansion of the I Shop Rewards program.

Element Goals, Actions and Indicators

4.5 Attract Tourism, Meetings and Events


Three Oaks Recreation Area

Goal:

Promote events, businesses and recreational opportunities through a variety of marketing efforts to attract new events and tourists.

Crystal Lake has always been known as a recreational community. Our historic downtown, the exceptional park system, train and roadway access, and the many things to do and see in Crystal Lake has made us a destination for visitors near and far. With the opening of Three Oaks Recreation Area adding to the destination that is Crystal Lake, there are more opportunities for attracting additional tourism to our community. There are redevelopment opportunities around Three Oaks Recreation Area where hotels and destination uses can be constructed.

	Supporting Actions	Success Indicators
4.5a	Continue to work with the McHenry Convention and Visitors Bureau to expand marketing efforts.	The number of marketing events planned each year.
4.5b	Develop downloadable tourism brochures for the City's website. Provide sample travel itineraries for day, weekend, and week-long tourists and inventories of sites of interest, dining, shopping, etc.	The creation of the brochures.
4.5c	Encourage people doing business with Crystal Lake to patronize local hotels, restaurants, stores and parks.	Annual hotel tax dollars paid.
4.5d	Develop event programming for the Three Oaks Recreation Area.	Employment of an event coordinator for Three Oaks Recreation Area (TORA) The publication of annual events at TORA.

Element Goals, Actions and Indicators

4.6 Grow the City's Tax Base



Recent new business openings around the City.



Goal:

Establish economic development practices that recruit new businesses and retain existing businesses and allow for the ease to redevelop vacant centers.

Growth of the retail sector leads to the growth of Crystal Lake's sales tax revenue. With the current housing slump and national economic slowdown, tax revenues have declined, especially with consumer spending habits being more conservative. Key retail sites in the commercial corridors and in the Northwest area represent the best opportunity to create new sales tax for the City. As the economy improves coupled with the opening of Three Oaks Recreation Area, a stronger demand for residential and commercial development will occur in the area. Best practices and thought of long term impacts will require intelligent and steady stewardship to strike the optimum balance between residential development, job creation, recreation and sustainable development. Although development is preferable sooner rather than later, good judgment is required to ensure the greatest long-term benefit to the people of Crystal Lake.

	Supporting Actions	Success Indicators
4.6a	Attract major recreational or green retailers and businesses to the Three Oaks Recreation Area.	Redevelopment of the Crystal Court Shopping Center. The number of new occupancies for buildings in this area.
4.6b	Promote Crystal Lake as a center of business activity and economic growth both locally and regionally.	Staff attendance at ICSC events. The number of marketing materials out to various businesses to attract them to locate in the City. The number of email blasts sent out.
4.6c	Advanced marketing of the available properties within the City's TIF Districts to relieve the potential of these areas.	The listing of the TIF Districts and incentives on the website. The number of properties that utilize City incentives.
4.6d	Land use decisions that allow for density of residential and commercial development in the vicinity of the railroad station locations that foster new smart growth.	The number of higher density residential projects or mixed-use developments near the new Pingree Road Station.

Element Goals, Actions and Indicators

4.7 Increase Grant Revenues



Utility line relocation



Location for future community art – based on grant funding.

Goal:

Continue to seek grant funding sources and make appropriate applications.

Grant revenues can be a significant source of funding, especially for capital project and certain community-based activities. With the passage of the American Reinvestment and Recovery Act (ARRA) in February 2009, Crystal Lake has both applied for and received significant dollars to improve infrastructure.

It is important that as efforts to procure grant funding are increased, these efforts are directed toward funding strategic priorities. Grants funds for community projects will be the most sought after.

	Supporting Actions	Success Indicators
4.5a	Work to acquire more grant funding.	The number of training courses for grant writing attended annually. The number of grant applications submitted. The number of grants received.
4.5b	Prioritize and focus grant seeking efforts on strategic initiatives.	Staff reviews grant funding opportunities to match them with upcoming projects.
4.5c	Monitor and apply for federal and state funding.	The number of grants received.

Element Goals, Actions and Indicators

4.8 Increase the Number of Jobs



Construction of Three Oaks Recreation Area Lake building


Annual sidewalk repair program

Goal:

Reduce barriers and create incentives for the development of projects which will increase the number of construction related jobs.

Increasing the number of jobs in Crystal Lake will depend on a number of interconnected strategies, including: business attraction and retention; attracting tourism, meetings and events; increasing job training for Crystal Lake residents; and expanding business operations. The same initiatives that will grow the local economy and the tax base will increase the number of jobs in Crystal Lake.

	Supporting Actions	Success Indicators
4.8a	Focus economic development efforts on growth sectors including green-collar, bio- tech and health sciences, retail and food production and distribution.	The number of new occupancies for "green" technology, bio-technology, health sciences, and food production and distribution businesses.
4.8b	Maintain our local business outreach program to help Crystal Lake-based businesses and contractors become better informed about doing business with the City, including a workshop for local businesses.	The number of RFPs and RFQs posted on the City's website. The attendance of a staff liaison at Chamber functions. The establishment of a local business workshop.
4.8c	Increase support for vocational job training programs.	Additional resources could be allocated for vocational job training programs each year.
4.8d	Business incubator for entrepreneurial start-ups.	Establishment of an incubator program.



Chapter five

Housing

Introduction

The housing component of the Comprehensive Plan combines the goals and objectives of the residential land use portion with the specifics of housing types and needs of all people. Crystal Lake's residential neighborhoods are one of the City's assets. Predominantly developed with single-family detached housing, there are also attached multi-family housing options.

Housing variety is important for maintaining the economic and social vitality of the City: children, singles, married couples, empty-nesters and seniors all play an important role in the life of the community. Encouraging a diversity of housing types is one of the objectives of the residential land use category. The City must continue to work with residents, businesses and community groups to ensure that future housing trends support the City's physical, economic and social objectives.

Demographics

The US Census Bureau provides information regarding the different housing types within the City. Figure 5-1 shows the breakdown by housing type. At 67% of the total 14,107 housing units, single family detached housing is the predominant housing type in the City.

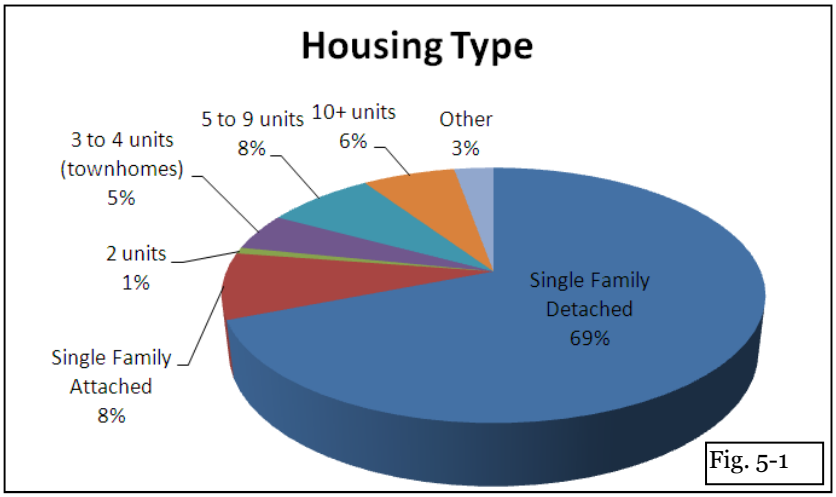


Fig. 5-1

The figure below (Figure 5-2) illustrates when the housing units were constructed by time period. 80% of Crystal Lake's housing units were constructed within the last 50 years. The greatest percentage of new house construction between 1990 and 1999

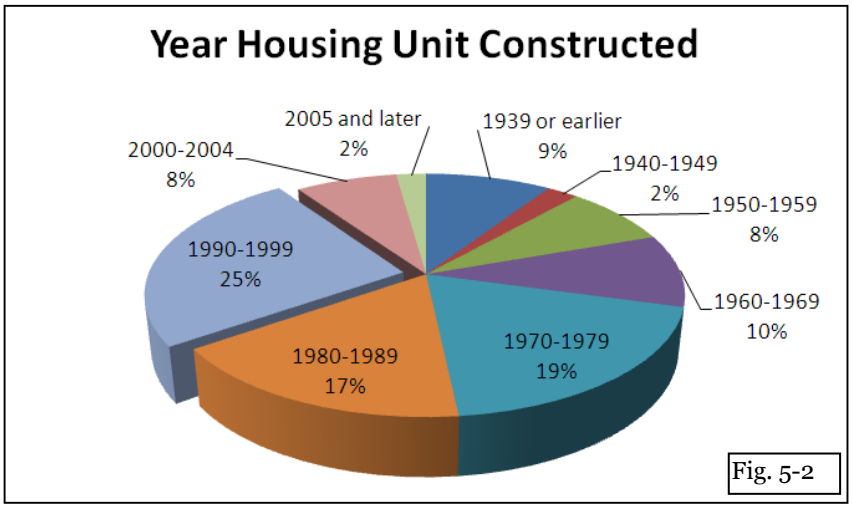


Fig. 5-2

Housing affordability is an indicator of how well a City can recruit and keep job providers. The rule of thumb is that housing should not exceed 30% of the income. Figure 5-3 illustrates the percentage of owner occupied housing units and their relationship to percentage of income. 25% of families pay more than 35% of their income toward housing.

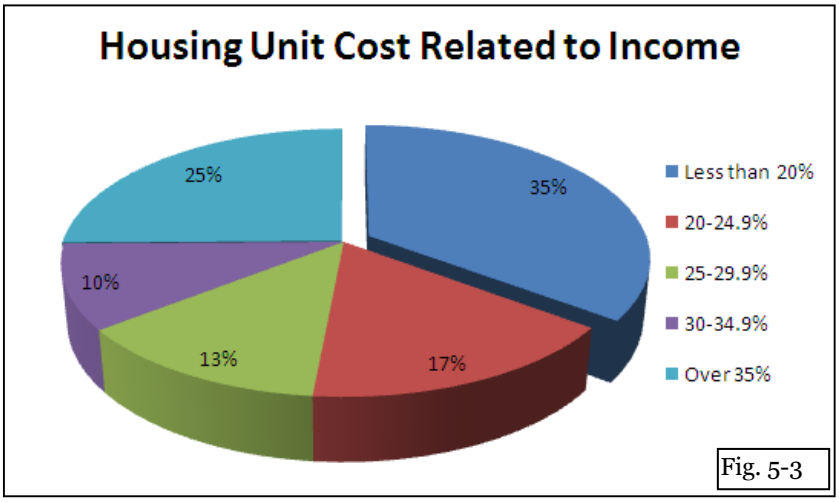


Fig. 5-3

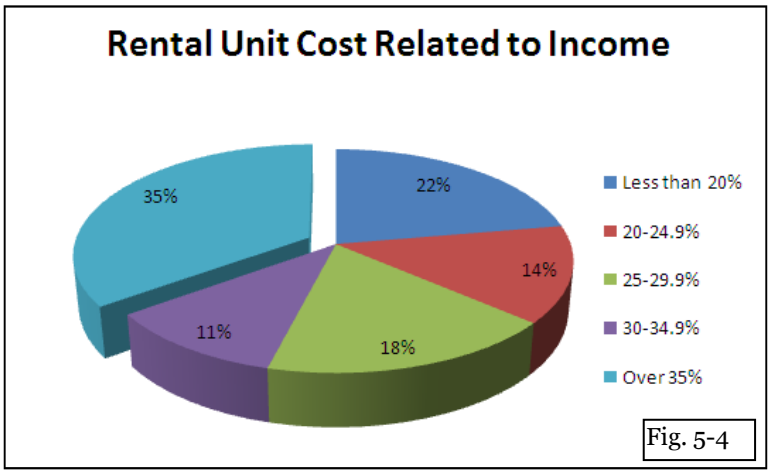


Fig. 5-4

Figure 5-4 illustrates rental properties. 35% of rental units exceed 35% of family income. These last two figures point to the need of affordable housing units, especially rental units in the City.

Residential uses are allowed within the following five land use categories:

Agriculture/Rural Residential

Represents residential uses in conjunction with a working farm. Density is typically 1 unit per 25 acres, though can be as dense as 1 unit per 5 acres.

Estate Residential

Represents large lot development, typically rural in nature, which may or may not be connected to City utilities. Typical density is 1 unit per 3 acres.

Urban Residential

Represents most of the existing single family and low density multi-family residential neighborhoods. The densities vary depending on the zoning district, but range between 1–4 units per acre.

High Density Residential

Represents existing and future multi-family development. Density ranges between 6 to 10 units per acre. Appropriate locations are near City services and mass transit facilities.

Central Urban Residential

Represents existing higher density single family and multi-family located around or within the Downtown Business District. Densities vary depending on the underlying zoning district. The appropriate density range is 4 to 6 dwelling units per acre.

Mixed Use

A mixed-use development provides an integration of retail, office, residential, hospitality, recreation or other functions. It is pedestrian-oriented and contains elements of a live-work-play environment. It maximizes space usage, has amenities and architectural expression and tends to mitigate traffic and sprawl.

Key Elements

This section of the Comprehensive Plan focuses on the following elements:

5.1 Single-Family Housing
5.2 Multi-Family Housing
5.3 Affordable Housing
5.4 Green Building

Key Element Goal, Actions and Indicators

5.1 Single Family Housing



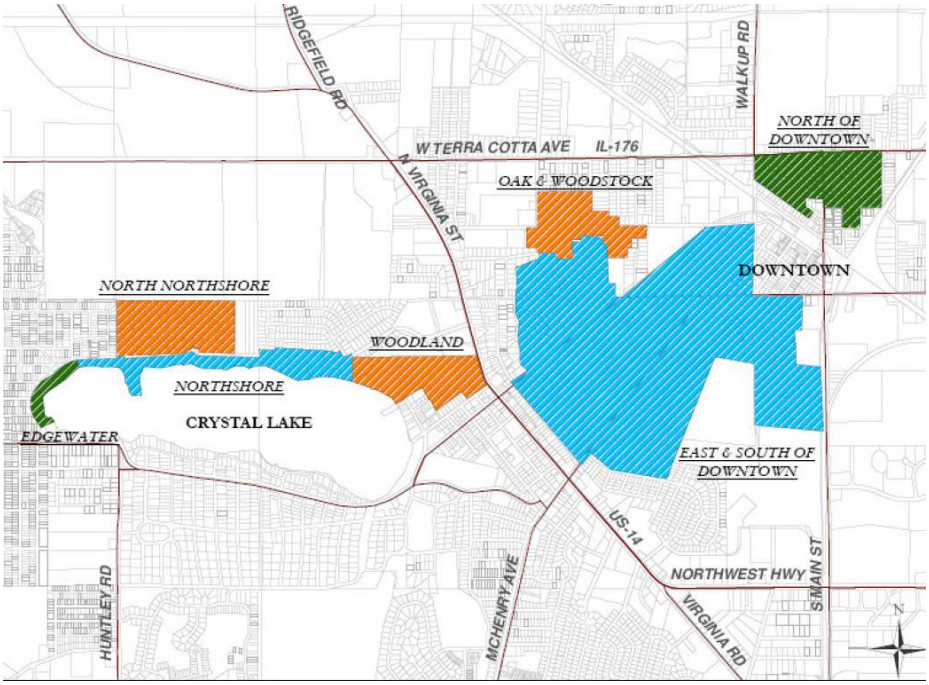
Goal:

Promote strong neighborhoods by preserving their character and historical significance and ensuring that they are well served by a variety of community facilities and services.

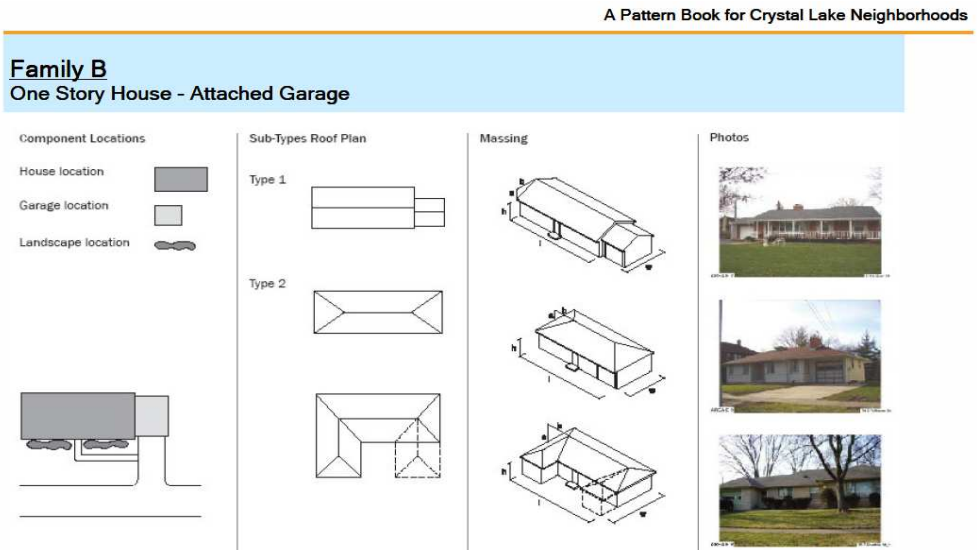
Crystal Lake is primarily developed with single family detached homes. Each existing neighborhood or subdivision has a unique character. Existing homes in these neighborhoods need guidelines to protect their unique architectural elements and character. The City has established a Pattern Book, which presents concepts and guidelines for additions to existing homes or infill development of a new home. It highlights the components that positively enhance the character of the neighborhood. Unique neighborhoods are encouraged to select a list of criteria from the Pattern Book and adopt those as standards as part of their neighborhood conservation overlay. The next page displays an example from the Pattern Book. In addition, newer subdivisions are typically governed by Covenants, Conditions and Restrictions enforced by a Home Owners Association. These subdivisions are also likely a Planned Unit Development that has specific housing elevations approved.

Future new development will likely take on different patterns than previous development. Depending on the economy, infill development could be the predominant building practice in the near future. Infill offers cost saving advantages since it takes advantage of existing utility and transportation infrastructure. New subdivisions would need to be planned around natural areas, preserving and utilizing the environment as an amenity. Most vacant land is in the City's northwest sub-area which has a conservation overlay district.

	Supporting Actions	Success Indicators
5.1a	Encourage the development of single family neighborhoods.	Number of new single family permits.
5.1b	Encourage quality subdivision design	The number of new conservation subdivisions. The number of new subdivisions that connect to services and to each other.
5.1c	Preserve the unique character of existing neighborhoods.	Number of Neighborhood Conservation Overlay districts approved.
5.1d	Encourage "green" improvements to homes and yards.	Number of rain gardens, bio-swales and native prairie flowers planted.



Neighborhoods recommended to adopt a Neighborhood Conservation Overlay



Key Element Goal, Actions and Indicators

5.2 Multi-Family Housing



Goal:

Provide an appropriate mix of multi-family housing to add density to appropriate areas and allow for mixed-use development.

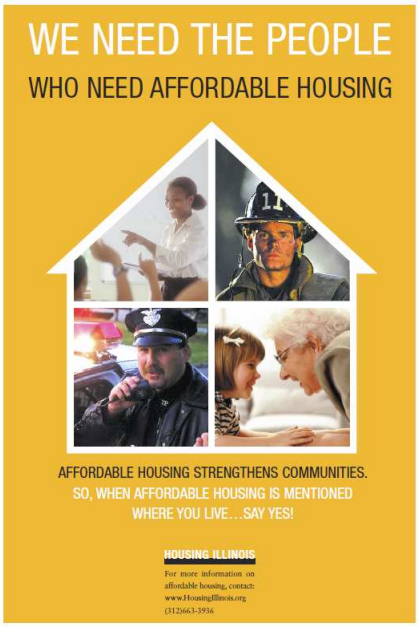
Multi-family housing is duplexes, townhomes, apartment or condominium buildings or units above business uses. Multi-family housing is important because it provides an alternative housing option. The flexibility of multi-family housing makes it ideal to integrate within single family neighborhoods and commercial projects. Multi-family housing can be located closer to business zoned properties allowing residents better access to jobs, services, retail good and transportation options. Multi-family housing developments also increase the density of an area without using up a lot of land.

Mixed-use projects where business services and residential uses are interdependent on each other will become more prevalent in the future as the trend of new urbanism design continues. The City encourages mixed-use projects because of the benefit of nearby services for residents reducing vehicle trips. It also provides a sustainable customer base for the business uses. There are three locations identified on the Comprehensive Land Use Map for mixed-use projects; the old Crystal Court Shopping Center north of Three Oaks Recreation Area, the intersection of Crystal Lake Avenue and Main Street and the Downtown.

	Supporting Actions	Success Indicators
5.2a	Promote the construction of a variety of multi-family housing products.	Number of new multi-family housing permits broken into categories for apartments, townhomes, and condominiums.
5.2b	Encourage development or redevelopment of areas for multi-family or mixed-use development.	Number of redevelopment projects approved for multi-family housing or a mix of uses.
5.2c	Promote well designed unique multi-family communities.	Number of new multi-family subdivisions with open space or connected to services or each other.

Key Element Goal, Actions and Indicators

5.3 Affordable Housing



The State of Illinois Is Facing an Affordable Housing Crisis

- **Moderate-Wage Earners Struggle.** A full-time worker in Illinois must earn **$15.83 per hour** in order to afford a two-bedroom apartment at fair market rent ($823). That means **a minimum-wage earner would have to work over 120 per week** to afford the fair market rent.
- **Over 25% of the State's Households (Renters and Owners) Struggle to Find Affordable Housing.** Over 1 million Illinois households lack affordable housing because they pay more than 30% of their income on rent or mortgage costs—that's more than one-quarter of the state.
- **Getting Much Worse for Owners.** From 1990 to 2000, the state experienced a **38% increase in the number of "cost burdened" owners** (households paying more than 35% of their income for ownership housing).

All information found online at www.housingillinois.org

Goal:

Provide an appropriate mix of housing needs for all persons regardless of income level, age, physical ability, race or other characteristic.

Affordable housing provides safe housing for persons making 80% or less of the area mean income level. Affordable housing may also be referred to as Workforce Housing because it is necessary to keep employees in the City and close to their jobs. Often, advocates for workforce or affordable housing are teachers, civil servants and blue collar workers. Affordable housing is also important for seniors, persons with a disability or other people who may be on a fixed income.

The inclusion of affordable housing is fundamental to maintaining the City's unique community character. Affordable housing is beneficial to young couples looking for a starter house or senior citizens that desire to stay in the community. In addition, the number of single parents has been slowly rising over the last 20 years. Single income households may need to look at affordable options so the children can remain in the same school.

Providing housing for employees in a variety of jobs is critical to maintaining economic stability. Civil servants including teachers, police and fire personnel just starting out may have a difficult time finding housing in the communities in which they work. Affordable housing is also used by those who work at blue collar jobs. Manufacturing companies sometimes look at the housing options for their employees before deciding to locate within a community. In addition, unskilled labor for many retail and restaurant establishments require affordable housing within close proximity to their employment. Affordable housing options allow people the ability to maintain a balance between housing costs and transportation costs. Including a mix of affordable housing in both single family and multi-family areas will create a stronger community.

	Supporting Actions	Success Indicators
5.3a	Encourage the construction of affordable housing throughout the City.	Number of affordable housing permits approved.
5.3b	Support a variety of affordable housing projects that provide housing options for seniors, young couples, and people making 80% or less of the area median income.	The number of single family affordable housing units. The number of multi-family affordable housing units. The number of assisted living projects approved.
5.3c	Continue to maintain compliance with IHDA's affordable housing requirement.	Compliance with a minimum of 10% of total available units as affordable.

The Surprising Facts about Affordable Housing

Surprise #1: You'll never believe who needs affordable housing. Imagine a family: a mom, dad, two kids. Dad works in a printing factory and makes $15 an hour. This family won't be able to afford an ordinary two-bedroom apartment anywhere in the Chicago area. Seniors whose only income is Social Security can't afford apartments in countless communities.

A person needs to make more than $17 an hour to afford an average two-bedroom apartment. A minimum- wage worker would have to work at 3.5 jobs for 140 hours a week to get that apartment.

Surprise #2: Funny. It doesn't look like affordable housing. Affordable housing has a new face. Just look at the pictures on these pages. Working with community leaders, architects, and landscape designers, today's affordable housing is meant to blend in, to be as much a part of the community as the people who live in it.

Surprise #3: Johnny got all A's and B's. As the cost of housing goes up, working families on the edge have to move from place to place. That means kids moving from school to school to school. They suffer. Their education suffers. Affordable housing gives families stability and kids thrive.

Surprise #4: You won't believe what my house sold for. Some people may think that mixed income housing has a negative effect on property values. But experience all across America has shown that not to be true. In many cases, property values for both houses and apartments have gone up as affordable housing is built.

Surprise #5: Am I the only one who thinks this is a great idea?We asked people all over the Chicago area how they felt about building affordable housing where they lived. Two-thirds of them said they supported more moderate- and low-income housing in their area. Even so, when affordable housing is proposed for a community, the few voices against can be pretty loud. So speak up and say "yes." Affordable housing is worth fighting for.

Key Element Goals, Actions and Indicators

5.4 Green Building Practices



Photo from www.greenspacencr.org

Goal:

Support and encourage green building practices in home and neighborhood design..

The United States Green Building Council (USGBC) has established a set of parameters for green building design called Leadership in Energy and Environmental Design (LEED). To achieve LEED certification, a third party evaluates energy savings, water efficiency, carbon dioxide emission reductions, improved indoor environmental quality and stewardship of resources and sensitivity to their impacts. This standard for building design has also been expanded to LEED—ND for Neighborhood Development. LEED—ND is slightly more complicated as it requires evaluation of the buildings as well as the site. LEED—ND looks at transportation, neighborhood design, green infrastructure, innovation in the design process and regional priority.

The City understands the importance of incorporating these standards into development. Staff has listed several USGBC standards within the UDO under the development standards for the Conservation Overlay. One of the most important features in the Conservation Overlay is to preserve any natural features. These range from oak stands, to native prairie areas to wetlands. Site design within the Conservation Overlay looks at these sites first then plans for buildings and roads. Green building techniques can be incorporated into new and existing sites.

	Supporting Actions	Success Indicators
5.4a	Establish standards for the preservation of natural areas.	Standards adopted.
5.4b	Encourage the use of the USGBC LEED and LEED—ND standards for new development.	Standards adopted.
5.4c	Encourage residents to incorporate green building techniques during their home maintenance or addition.	Number of permits with green technology equipment included.



Chapter six

Transportation

Introduction

Mobility; moving people and things from one place to another is essential to the economic, social and cultural success of Crystal Lake. Safe and convenient modes of transportation are a necessary standard for a good quality of life. The United States, in general, is an auto-dominated society. The end of the second World War allowed people to enjoy the freedom of open roads and home ownership in the suburbs. The Interstate System, started for national defense, has provided much needed links across the country. Before the freedom of the automobile, rail travel was the most common way to get across the county. A hundred years before the interstate system was established, rail lines crossed the US, and 1869 saw the completion of the first Transcontinental Railroad. Rail moved goods and people across the country more efficiently than the previous mode.

Today we rely heavily on roadways and rail lines to get us to our local destinations. Interconnected street networks utilize a hierarchy of road types to organize traffic and destinations. Roadways in Crystal Lake are classified into six categories; alleys, local streets, minor collectors, major collectors, minor arterials and major arterials. The standards for access, sight visibility, speed limits, and roadway design all vary depending on the roadway classification. Crystal Lake maintains a logical street network to efficiently move people and goods throughout the City.

Metra's Northwest Line serves Crystal Lake and several other surrounding communities including, Harvard, Woodstock, Cary and McHenry. The City has two Metra Rail Stations that utilize the Union Pacific Rail lines. Numerous commuters use this line, which travels northwest/southeast to its final destination at Ogilvie Transportation Center in Downtown Chicago. The Regional Transit Asset Management System (RTAMS) most recent data from 2006 estimates almost 2,000 people daily using Metra from the Crystal Lake stops alone. This number has increased steadily in the recent years. In 2010, Metra estimated over 820,000 riders on the

Northwest Line for the month of December. Although the train is not the dominant form of transportation in the area, it has a significant amount of users. Improvements to the areas surrounding the two train stations should focus on improving and increasing ridership.

What does the future of transportation look like? Across the country talks of high speed rail and light rail are underway. The State of Arizona currently has a 20-mile long light rail system that connects 5 cities. Amtrack's Acela Express is the Country's first high speed rail service and runs between Boston and Washington D.C. connecting 9 states and 14 cities. Both of these systems operate in heavily populated areas. So what about the future for Crystal Lake? Surface streets will likely be the primary means of transportation. The City should explore and create a conducive environment for increasing bus service and Metra train service. In addition to cars and trains, the City also provides a network of sidewalks and bike/multi-use paths.

Main Goal

The overall goal for the City's Transportation plan is to, "Provide a comprehensive transportation system to safely and efficiently serve current and future land uses, considering travel by road, rail, public transportation, bicycle and foot." This goal can be accomplished through the implementation of many key elements.

Key Elements

The intent of this plan chapter is to increase the ease of, and broaden the options for, moving about our city, and to create logical extensions of the existing transportation network. This chapter of the Comprehensive Plan focuses on the following key elements:

6.1 Roadways
6.2 Metra Rail Service
6.3 Alternative Modes of Transportation
6.4 Transit Oriented Development

Roadway Classifications

The Engineering Division has established a hierarchy of streets throughout the City. The following list describes and illustrates the roadway system. Cross-sections for major and minor arterial roadways are determined on a case-by-case basis depending on specific site conditions. All of these standard cross-sections are encouraged to be modified in conservation designed developments as well as other locations where it benefits the environment.

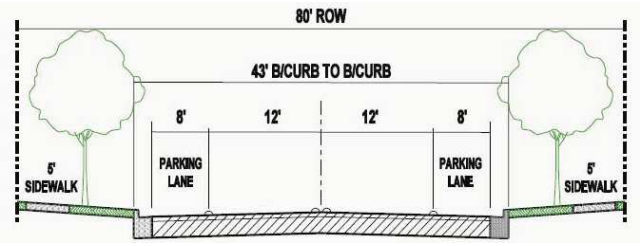
- Major Arterial

These routes serve regional transportation needs for traffic entering and exiting the city and between major activity centers within the City. These are typically Illinois Department of Transportation (IDOT) or McHenry County Department of Transportation (MCDOT) routes. Refer to the City's standard cross section details in the Appendix of the UDO. Examples: Route 31, Route 14. The right-of-way width required for a Major Arterial is generally 120-170 feet.

- Minor Arterial

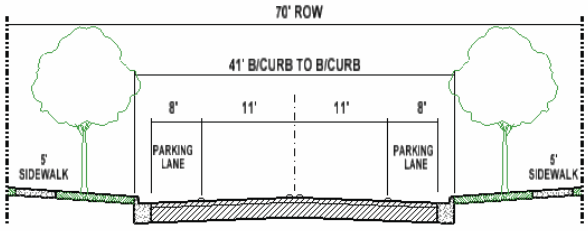
These routes interconnect and supplement the major arterial routes, accommodate moderate trip lengths, and service activity centers. Refer to the City's standard cross section details in the Appendix. Examples: Ackman Road, Lucas Road. The right-of-way width required for a Minor Arterial is 100-120 feet.

- Major Collector



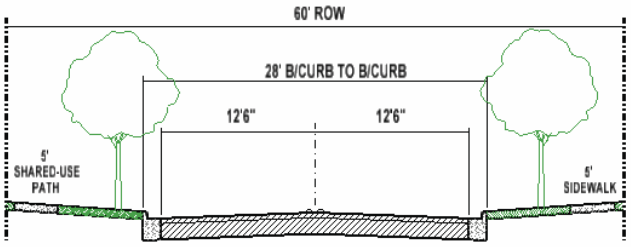
These routes serve as intermediate links between major arterials and points of origin or destination by providing access and traffic circulation within residential neighborhoods and commercial areas. These roadways are usually under the City's jurisdiction for ownership and maintenance. Refer to the City's standard cross section details in the Appendix. Examples: McHenry Avenue, Golf Course Road. The minimum right-of-way width required for a Major Collector is 80 feet and 100 feet or more may be required for a rural cross-section with ditches.

- Minor Collector



These roads connect smaller access streets and residences to the main roadway network (major collectors and arterials). Refer to the City's standard cross section details in the Appendix. Examples: Crystal Ridge Drive, Barlina Road. The minimum right-of-way width required for a Minor Collector is 70 feet and 100' or more may be required for a rural cross-section with ditches.

- Local Street



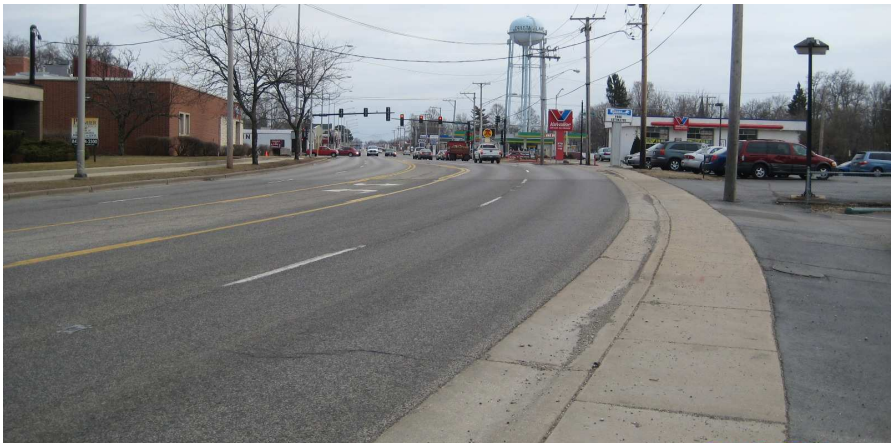
These roads serve to provide access to residential neighborhoods and commercial areas. Refer to the City's standard cross section details in the Appendix. Examples: Caroline Street, Memorial Drive. The minimum right-of-way width required for a Local Street is 60 feet; additional right-of-way, and/or municipal easements may be required if a rural cross section is utilized, or within manufacturing areas or business parks.

- Alley

An alley (residential or commercial) is a very low volume road designed to provide access to the rear or side of a lot including refuse handling and fire access. Refer to the City's standard cross section details in the Appendix. Alleys are not typical and the cross-section would be established by the developer for specific site conditions.

Key Elements, Actions and Indicators

6.1 Roadways



Goal:

Maintain existing roadway infrastructure network, encourage maintenance and implement improvements as necessary to facilitate safe and efficient pedestrian and automobile travel.

The roadway network that runs through Crystal Lake is made up of roads under the jurisdiction of the City, the County, the State, Townships and private owners. The City is responsible for the roadways under its jurisdiction including, maintenance, snow plowing, safety, traffic control and lighting. In addition to motorized vehicles utilizing the roads, bicyclists and pedestrians also need to be accommodated. A new term was coined by IDOT that describes streets designed to safely move pedestrians, bicyclists, motorists, and transit riders of all ages and abilities, Complete Streets. Complete Streets was proposed as a way to ensure that roadways could be used safely by everyone and not solely dominated by vehicles. The City supports the idea of having complete streets and recommends sidewalks and bike facilities or multi-use trails along all roadways. The City also utilizes count-down pedestrian walk signals, some with audible tones, that assist people with disabilities in crossing signalized intersections.

Maintenance of the city roadways is handled by both the Engineering Division and the Public Works Department. The City fills potholes, repairs tripping hazards on sidewalks, performs street sweeping, trims trees and removes brush from sight lines and resurfaces travel lanes on an as needed basis. This routine maintenance keeps the city streets safe.

The typical cross-sections illustrated on the previous page can be modified through review. In instances where a site is within a Conservation Overlay, Watershed Zoning District or a conservation subdivision, alternative cross-sections are strongly encouraged, which minimize impervious pavement surfaces and utilize natural water conveyance systems. The following illustrations show the use of native vegetation, permeable pavement, biofiltration swales and rain gardens, all which convey and filter stormwater. Further techniques are outlined in the Crystal Lake Watershed Stormwater Management Design Manual.



Permeable Pavement, David Herron, Examiner.com



Rain Garden Walter Wright, Reimagining Cleveland



Bioswale www.rivanna-stormwater.org

	Supporting Actions	Success Indicators
6.1a	Ensure maintenance of existing roadways, and provide adequate facilities to serve new growth.	The funding of the street resurfacing program. The completion of roadway connections as planned. The completion of capital improvement projects.
6.1b	Require new development to pay for its fair share of all transportation modes.	The construction of new streets, sidewalks and like facilities with all new development.
6.1c	Improve site design concepts to reduce traffic congestion and reliance on automobiles.	Increase in the construction of mixed-use projects. Increase the number of sites that provide bicycle and pedestrian corridor links through neighborhoods and to other services.
6.1d	Coordinate efforts with government agencies on a regional basis to improve transportation beyond the City limits.	Implementation of joint roadway projects with the City and another agency. Implementation of transportation planning with conservation groups.
6.1e	Support alternative roadway cross-sections that improve safety, reduce pavement width and provide facilities for pedestrians, bicyclists and transit riders.	The construction of bio-swales, rain gardens and permeable pavement in roadway projects. The increase in the number of alternative roadway cross-sections constructed.



Smart Growth America

Key Elements, Actions and Indicators

6.2 Metra Rail Service



laffy4K's photostream, Flicker.com

Goal:

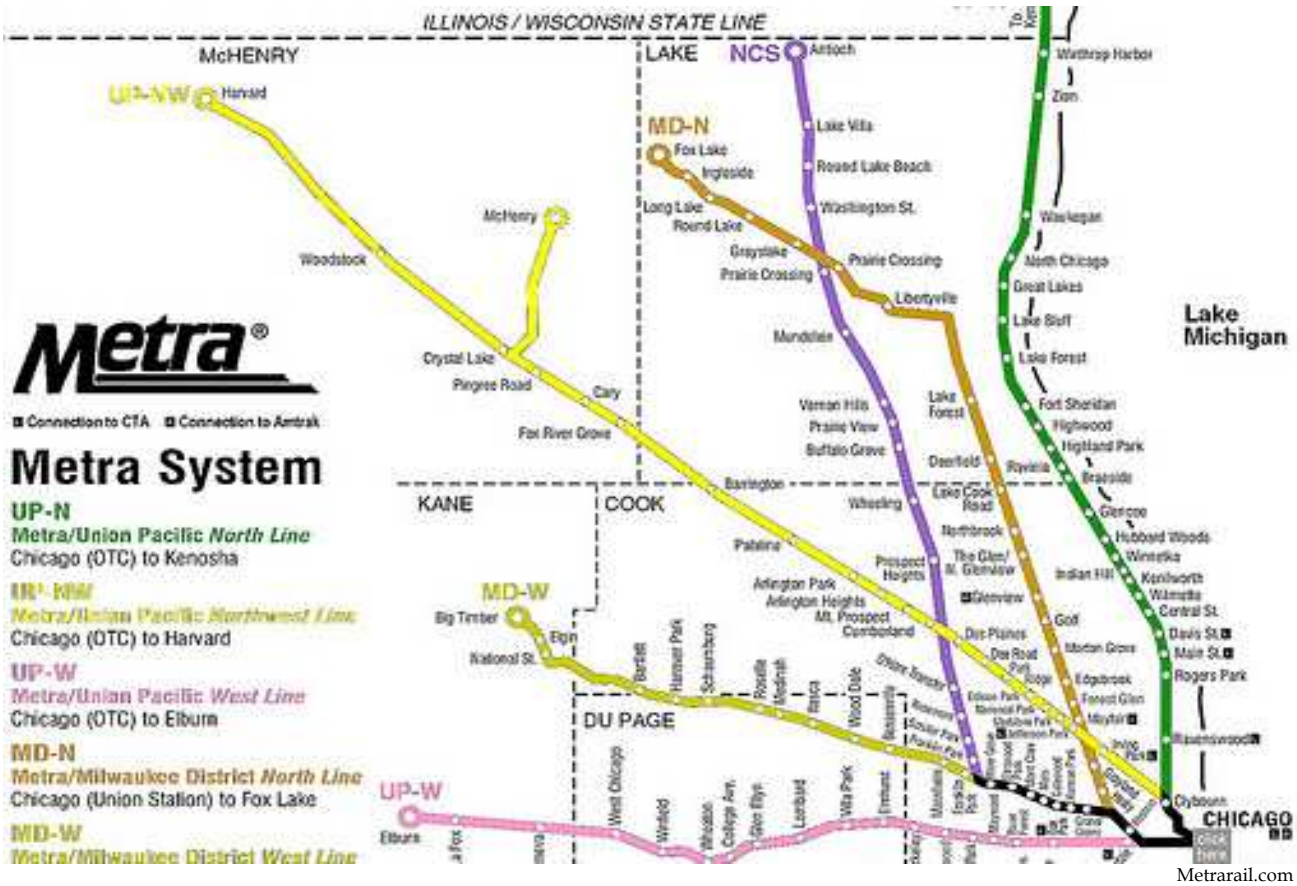
Promote the City's two Metra Stations including the development of increased residential density and commercial opportunities adjacent to them.

Passenger rail transportation is provided though Metra on their northwest line, which includes two train stations in Crystal Lake. Downtown Crystal Lake has one of the Metra stations while the other is along Pingree Road in the Crystal Lake Business Center. Successful transit stations offer a convenient location for riders to park and destination services when you arrive. Downtown is the ideal location for the train station because it offers several parking lots easily accessed, as well as destination services including retail shopping, restaurants, and arts and culture for those coming to Crystal Lake. The Pingree Road station is located near residential development and a business park and is accessible from regional arterials like Route 14, Route 31, and Rakow Road. The business park contains service uses and several medical offices providing both the employees who use the train for work and destinations for other riders coming to Crystal Lake. The parking lot at the Pingree Road station was recently expanded to accommodate the ridership demand. The Crystal Lake stations have some of the highest ridership on this line.

Increase in ridership occurs when more services are offered at the stations, additional parking is added to accommodate more riders and when land uses surrounding the stations allow for more destinations for riders. The City works closely with Metra to increase ridership at these two stations.


Railpictures.net

	Supporting Actions	Success Indicators
6.2a	Work with Metra to enhance ridership by increasing the services provided at stations and the number of parking spaces.	The increase of parking lots or spaces in close proximity to the Metra Station for commuter parking. Metra's expansion of station services. The number of new businesses that open within 1/4 mile of the Metra stations.
6.2b	Encourage complementary land uses around stations to offer additional conveniences to riders and to reduce vehicle trips on roadways.	The increase of retail, service and office uses near the Downtown and Pingree Road stations. The increase of residential uses around the Downtown and Pingree Road stations.
6.2c	Make accommodations for alternative modes of transportation at the Metra Stations.	Increase of bicycle facilities and sidewalks. Increase in area for loading and stacking for PACE, Dial-a-Ride, or taxi services.



Metrarail.com

Key Elements, Actions and Indicators

6.3 Alternative Modes of Transportation



Rick Langlois, picasaweb.google.com


Crystal Lake Park District



Www.dot.il.gov/saferoutes

Goal:

Encourage alternative modes of transportation throughout the City to provide a complete transportation system.

Alternative modes of transportation can be biking and walking or using bus, train or carpool services. Anytime someone can get out of a single-occupancy car and use an alternative mode of transportation, it helps the environment and reduces their carbon footprint. The City supports a variety of alternative modes of transportation. This section focuses on bicycling and walking and bus transportation.

Bicycling and walking are non-polluting alternatives to the automobile. Crystal Lake has both on-street and off-street bike and multi-use trails. The City's trails connect with McHenry County Conservation District's Prairie Trail, a regional multi-use path, which travels through Crystal Lake for part of its 26-mile stretch through 2 counties. The City is in the process of drafting a Bicycle Facility Master Plan. This plan illustrates numerous routes across the city with current or proposed future multi-use paths. This Master Plan would be used by staff to prioritize and schedule projects.

Currently, the City is using this plan to construct improvements through the Safe Routes to School program. Safe Routes to School is a federally funded program administered by IDOT that enables and encourages walking and biking to and from school for children in Kindergarten through 8th grade. The City worked with District 47 to establish a school travel plan. The City has applied for grant funding to begin constructing some of these identified routes. Each year, the City can review the plan with the school district, make changes as necessary and apply for grant funding for the highest priority trails.



© City of Crystal Lake, 2010

Sidewalks, typically constructed along roadways, also provide links throughout the City. City ordinances require sidewalk planning during the subdivision platting process. In several auto dominated areas of the City, sidewalks are lacking. City staff will

look for ways to have sidewalks installed in these locations. The City has a sidewalk program that repairs damaged sidewalks that pose a tripping hazard. Although much of the City is designed around automobile travel, sidewalks are important, necessary links for people to get to their destinations.

PACE Bus provides fixed bus routes, dial-a-ride and van pool services throughout the Chicago Metro region. Two PACE fixed bus routes have a stop at the Downtown Crystal Lake Metra Station. Individual dial-a-ride and vanpool services also make PACE transit convenient and available to most everyone. The two PACE fixed route bus stops at the Downtown Crystal Lake Metra Station provide a needed link between the bus and train transit services.

	Supporting Actions	Success Indicators
6.3a	Create and implement an integrated city-wide multi-modal transportation system.	Increase in the number of links constructed, i.e. sidewalk, bike lanes and multi-use paths to destinations such as schools, shopping or medical offices. Increase in sidewalk installation or connections made by developers during new development requests. The number of multi-modal designed subdivision developments (grid street network, sidewalks, and alternative street cross-sections).
6.3b	Continue to work with PACE to offer bus service to City residents. Encourage site designs that help increase ridership and facilitate bus movement.	Increase in the number of bus pullouts or bus stop locations at destinations (offices, retail, service uses, etc.). Increase in the frequency of the bus service around Crystal Lake.
6.3c	Establish a Safe Routes to School plan and continually update the plan.	An annual review of the Safe Routes to School Travel Plan with School District 47. Increase the annual number of miles constructed of sidewalks and paths. Increase grant funding money received to construct safe route eligible projects.

Key Elements, Actions and Indicators

6.4 Transit Oriented Development



Sacramento Regional Transit

Goal:

Promote the development of Transit-Oriented Development through education, ordinance standards and assistance to developers.

Transit Oriented Development (TOD) is the link between land use decisions and transportation systems. TOD includes vital, walkable, neighborhoods; housing, shopping and transportation choices; and access to jobs, services and cultural and recreational destinations. Creating a successful TOD area requires a careful balance between the uses and transportation options, it is more than simply development near transit stops.

The land uses around TOD predict its success or failure. Retail uses are typically the most sought after since major retailers can draw people to the area. The retail needs to be the right fit for the people in that area. Other uses such as service, office and housing should be interspersed with retail. Also building too much retail can have a negative affect on the surrounding area. If there are too many vacant storefronts , the area could look blighted and detract from property values and the property owners ability to lease out the remaining spaces. TOD is typically successful when density either in housing or in jobs is provided. This density provides the population which uses the transportation services. Getting the proper mix of uses and high quality users will mean the success of the TOD.

TOD can be a key to cutting energy consumption. A United States Environmental Protection Agency (EPA) study titled, Location Efficiency and Housing Type—Boiling it Down to BTU's, (Jonathan Rose Companies, LLC with support from US EPA, 2010) establishes a concept called, "location efficiency," which analyzes the difference between conventional subdivision development and transit oriented development. The study examined national data of the relationship between housing and energy consumption through four main scenarios; conventional suburban development verses TOD, green building and energy star verses conventional construction, single-family verses multi-family housing style, and green verses conventional automobiles. It was found that the biggest impact in reducing energy consumption was going from a conventional subdivi-

sion development to a transit oriented development. A 39% energy consumption reduction was found for typical single-family detached houses with a TOD, this figure increases to 50% for multi -family housing. The graph exhibit illustrates the results from this study.



Location Efficiency: Household and Transportation Energy Use by Location

TOD is an efficient, economical and environmentally preferred method of development. The City has two train stations that would lend themselves to TOD. The exploration of TOD project developers and the promotion of TOD construction projects are two main goals the City should work towards.

	Supporting Actions	Success Indicators
6.4a	Work with developers to construct TOD projects.	The construction of new TOD projects. The rehabilitation of existing sites into TOD projects. The approval of variations within a project to accomplish TOD principles.
6.4b	Promote TOD as a preferred method of development in select locations.	The inclusion of standards for TOD within the UDO. The number of TOD project developers recruited using Economic Development strategies.

Transportation plays a major role in quality of life and affects land uses. Crystal Lake's goal is to create a balance so that transportation and land uses work together creating usable areas. The roadway network around residential areas should be local streets with a main collector promoting walkability and safety. Whereas areas around TOD should promote alternative methods of transportation and access via major arterials.



Chapter seven

Unique Areas

Introduction

Unique areas exist throughout the City, which due to location, attributes or use have a special character that is not well defined by other sections of this plan. The City has three unique areas; Downtown, Virginia Street Corridor and Three Oaks Recreation Area and surrounding area. Additional areas can be added to this section as they require the need for unique goals, actions and indicators.

The first unique area is the Downtown. Downtown is the heart of Crystal Lake and has a certain character related to the diversity of businesses, location of the Metra train station and setting for numerous annual events. The second area is the Virginia Street Corridor. This is an older area primarily developed with retail and service uses. The uses are highly auto centric with numerous gas stations and businesses with individual surface parking lots. The City has established a TIF District for this area, which will improve the pedestrian environment and spur economic redevelopment through streetscape improvements. The third area is Three Oaks Recreation Area and the properties around the periphery. Three Oak Recreation Area (TORA) has been established as a multi-use recreational area by the City. TORA includes sand beach areas, multi-use paths, picnic areas, splash park and playground and boat rental facilities. The importance of this chapter is to establish goals and success indicators for each of these unique areas that enhance their characteristics.

Individual Unique Areas, Goals, Actions and Indicators

7.1 Downtown





Goal:

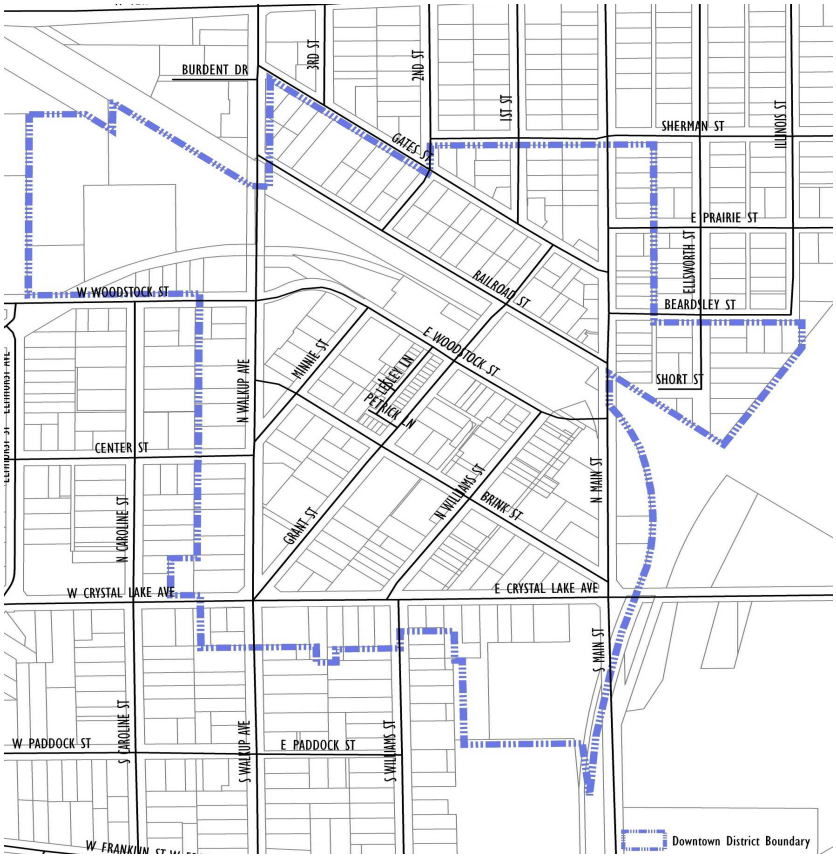
Promote the unique architectural, historical, and social aspects of the downtown to stimulate economic and social vitality.

Downtown is the most visible sign of our heritage. If the downtown is not active, then the City loses its focal point. The downtown district has been thriving the last several years. Vacancies are almost nonexistent and new independent businesses have opened. Many exciting promotional activities bring families from all over to the downtown area. These include the Johnny Appleseed Festival and Festival of Lights Parade. The Raue Performing Arts Center is a major draw in the already bustling downtown. The importance of the downtown district should be considered in relation to the surrounding uses.

The Downtown Comprehensive Plan, adopted in 1996, examines the existing conditions within the study area. Also, the land use section discusses zoning, use categories, building conditions and architectural and historic content. The transportation section reviews the street network, parking facilities, bike paths and bike accommodations, rail and other transportation modes. These components need to be balanced to ensure a thriving downtown.

The Main Street group are dedicated volunteers who strive to preserve and enhance the Historic Downtown district as the heart of Crystal Lake and provide for a successful business and residential environment that communicates a sense of community pride, heritage and small town wholesomeness as a lasting legacy for future generations. In addition, the Main Street Group has developed Design Guidelines to assist downtown property owners in appropriately renovating and restoring their buildings.

	Supporting Actions	Success Indicators
7.1a	Promote various activities downtown.	Growing attendance at various downtown events.
7.1b	Protect the rich architectural heritage of the downtown area so as to maintain its unique and desirable character.	Adoption of a Downtown Historic District. The number of grants awarded for historic renovations on Downtown historic properties.
7.1c	Strengthen the economic base of the downtown while diversifying it.	The number of new occupancies Downtown for "chain" stores. The number of new occupancies Downtown for "mom and pop" stores. The creation of cohesive marketing materials for visitors that identify historic themes.
7.1d	Support and maintain existing cultural facilities, programs and events.	Creation of a walking tour. Location of art clusters through the use of tools such as incentives and art incubators. Increased Raue Center events.
7.1e	Promote Downtown housing.	The identification of sites for housing. The approval of mixed use housing projects.



DOWNTOWN DISTRICT

Individual Unique Areas, Goals, Actions and Indicators

7.2 Virginia Street Corridor





Goal:

To promote and enhance the corridor as a viable commercial district, through encouraging aesthetic improvements and appropriate land uses, while maintaining the unique character of the corridor.

The Virginia Street Corridor (VSC) is a section of Route 14 that runs from Carpenter Street slightly past Linn Avenue. The VSC contains approximately 25 acres, with about 3,600 lineal feet of frontage on the east side and about 2,500 lineal feet on the west side. This section of Route 14 is one of the busiest state roads in McHenry County, which is excellent for the retail potential along this corridor. The corridor is within a Tax-Increment Financing District (TIF). This TIF District was established with the goal of enhancing the aesthetics, landscaping, streetscape, signage, shared parking and overall pedestrian environment within this corridor.

The area is an existing commercial corridor, but has numerous buildings and sites that are vacant or in need of redevelopment. The TIF will fund the initial streetscape improvements with the goal of jump starting the economic redevelopment of the area. In addition, through the Unified Development Ordinance, an overlay district for the VSC has been established. The overlay district outlines Design Standards that must be followed during renovation and redevelopment of buildings or properties within the corridor.



The City completed the VSC streetscape project in 2011. The pedestrian enhancements have made a dramatic difference in the appearance of this corridor.

	Supporting Actions	Success Indicators
7.2a	Ensure compliance with VSC Design Standards.	Number of variations from Design Standards.
7.2b	Encourage investment in private property.	Number of building permits issued for redevelopment or renovation on site. Number of properties with streetscape improvements on private property. Number of occupancy applications.
7.2c	Encourage livelier pedestrian environment through development and redevelopment.	Approval of attractive urban design elements such as outdoor seating and attractive storefronts. Parking areas located to the rear so as not to intrude on pedestrian activity.
7.2d	Encourage installation of public art in the corridor.	Establishment of a public art program.





McCormick Park Plaza

Individual Unique Areas, Goals, Actions and Indicators

7.3 Three Oaks Recreation Area and surrounding properties





Goal:

Maintain Three Oaks Recreation Area as a premier recreation asset and as a focal point for appropriate redevelopment along the Route 14 and Main Street corridors.

Previously mined for its sand and gravel, the 475-acre Three Oaks Recreation Area is located north of Rakow Road, south of Route 14, east of Main Street and west of Pingree Road. Containing two lakes, a beach, boat access, hiking trails, a bike path, and fish and wildlife habitats, the property is a tremendous natural and recreational asset to the citizens of Crystal Lake and a resource of regional significance, with two of the most pristine lakes in northern Illinois.

Properties along Route 14 north of the Three Oaks Recreation Area as well as within the Crystal Court Shopping Center represent an outstanding redevelopment opportunity and could provide a new gateway to the Three Oaks Recreation Area. These properties sit atop a massive stone plateau overlooking the lakes and offering excellent views of the water. The City's vision for this area includes a mixed-use commercial development that combines the traditional retail functions of a shopping mall but with leisure amenities and with a greater integration of residential, retail, and civic uses.

	Supporting Actions	Success Indicators
7.3a	Promote redevelopment and tenant occupation of the existing buildings.	Number of new occupancy permits for properties in this area. Redevelopment of the existing buildings.
7.3b	Encourage a variety of uses that can be self-sustaining and that attract people from and to the Three Oaks Recreation Area	Redevelopment of Crystal Court. Number of new occupancies for specialty recreation retailers. Number of new occupancies for restaurant or food places.



Crystal Court - Phase 2 - Proposed Site Improvements
City of Crystal Lake

LEGATARCHITECTS
April 2009



Chapter eight

Parks and Recreation

Introduction

One of the indicators of quality of life in a City is the health of its parks and recreation system. The City of Crystal Lake is fortunate to have an excellent parks and recreation system which is administered by the Crystal Lake Park District and the City of Crystal Lake. The Crystal Lake Park District is a separate governmental entity with their own elected officials, dedicated tax rates and autonomy. The City of Crystal Lake works closely with the Park District on any projects on park property. The goal of this element is to set a framework of policies and action steps to guide programming, management and development of a parks, recreation and open space system.

Crystal Lake Park District

The mission of the Crystal Lake Park District is "to provide a safe leisure environment along with quality programs, parks, facilities and services and to preserve and protect open land and water areas that will benefit and improve the quality of life for our residents now and in the future." This mission is accomplished through the following:

- Provision and maintenance of 1,400 acres of park, natural areas and open spaces, including 24 playgrounds, 14 tennis courts, 14 basketball courts, 24 baseball/softball fields and 12 soccer fields.
- Provision of more than 1,100 recreation and leisure programs each year for 58,000 park district residents of all ages and abilities.
- Provision of recreational facilities for specific uses including Main and West Beaches,

Lippold Park Athletic Complex, the Nature Center, Park Place Banquet Facility, The Racket Club, Barlina House Preschool and the Colonel Palmer House.

- Cooperation with community organizations to provide a unique range of special events, including the Independence Day Fireworks, Cardboard Cup Regatta and Chili Open Golf Classic, all on Crystal Lake; the McHenry County Youth Sports Association's International Baseball Tournament at Lippold Park; and dozens of running, walking and rowing events throughout the park system.

The Crystal Lake Park District owns and maintains our namesake, Crystal Lake, a 230-acre body of water that provides boating, fishing, swimming and other aquatic activities year round. Other unique natural areas within the district are Sterne's Woods and Fen and Wingate Prairie, both of which are Illinois Nature Preserves.

Park District Facilities

The Park District groups its facilities into five categories; Regional Parks, Special Use Parks/ Facilities, Community Parks, Neighborhood Parks, and Pocket Parks.

Regional Parks are larger than 50 acres and serve an area population that may extend beyond the City limits. The Park District lists one park as a Regional Park.

- Lippold Park. It is 310 acres and contains active areas of open space as well as protected areas such as wetlands. The park offers ball fields, a skate park, a dog park, trails, picnic shelters, disc golf course, miniature golf course, driving range, batting cages and playground.

Special Use Parks/Facilities have a smaller more defined service area. These are facilities that have a special purpose usually a single purpose. The Park District lists the following 10 parks as Special Use Parks/Facilities.

- Butternut Preserve. 15 acre wooded site with trail system and a branch of the Kishwaukee River.
- Colonel Palmer House. Historic building and 4 acres of grounds used for education, special events and demonstrations promoting the history of Crystal Lake.
- Cress Creek Property. A 2.5 acre site with trails and benches along the creek.
- Grand Oaks Recreation Center. Multi purpose recreation building used for programs including Safety Town, gymnastics, dance, self defense and other park programs.
- Hill Farm Park. 15 acre site with historic Barlina House now used for preschool. 100+ year old barn is used for storage. Site has 140 plots for community gardens.
- Park Place. A full service banquet facility providing space for special events and meetings, as well as park programs.
- Prairie Ridge Conservation Area. This is a 57 acre wooded natural area with two ponds.

- The Racket Club. A tennis club with 9 indoor and 6 outdoor courts. An enterprise facility supported wholly through membership dues, lesson and court fees.
- Sterne's Woods & Fen. A 185 acre Illinois Nature Preserve including woodland, wetland and fen. Trails connect the Prairie Trail bike path and lead to Veteran Acres Park.
- Sunset Meadows Park. A 134 acre open space located in the Crystal Lake watershed. Currently leased for agricultural use. Future development as a passive recreation area.

Community Parks are between 10 and 49 acres and serve an approximately 2 mile radius area. They provide a variety of recreational activities. The Park District list the following 12 facilities as community parks.

- Ken Bird Park. 15 acre site with playground, tennis courts, basketball court, ball field and bike path.
- Canterbury Park. 6 acre site adjacent to Canterbury Elementary School with ball fields, basketball court and playground.
- Feinberg Park. This site has a bike path, playground, tennis and basketball courts, and a sled hill on 10.5 acres.
- Fetzner Park. 22 acres with playground equipment, basketball court, ball field, picnic shelter, and bike path following the Woods Creek.
- Four Colonies Park. The 19 acre site encompasses a large pond and has recreation equipment including basketball and tennis courts, a playground ball fields, and walking trails.
- Indian Prairie Park. A sled hill, ball fields and concession stand on 12.5 acres adjacent to Indian Prairie Elementary School.
- Main Beach/Lake Park. A 27 acre park on Crystal Lake. It offers a sand beach, playground, picnic areas, band shell, concession stand, boat rental, boat launch, ball field and basketball court. A multi purpose recreation building is the site of many park programs and special events.
- Spoerl Park. Baseball field, basketball and tennis court, playground and community building on 6 acres.
- Veteran Acres Park. 140 acres of woodland, prairie and wetlands. The park offers numerous active recreation opportunities including a playground, spray park, picnic area, ball field, tennis and basketball courts, fishing, sledding hills and Nature Center with a Butterfly House. Miles of trails wind through the rolling wooded hills and the Wingate Prairie, an Illinois Nature Preserve.

- West Beach. A sand beach, fishing piers and boat launch on a 2.5 acre site. Multi-purpose building for park programs and winter warming.
- Willows Edge Park. 44 acres of paths, natural areas and fishing opportunities.
- Woods Creek Park. With a playground, bike facilities, basketball, volleyball and tennis courts, fishing pier, picnic area, and soccer fields on 40 acres, this is a very active park. A multi-purpose building provides restrooms and space for park programs.

Neighborhood parks serve a 1 mile radius area and are usually between 1 and 9 acres. They are intended to serve an immediate population that is within walking distance of the facility. The Park District lists 15 facilities as community parks.

- Asbury Park. 1.5 acres with picnic tables and playground.
- Brighton Oaks Park. Two tennis courts, basketball court, playground and picnic facilities on approximately 2 acres.
- Hampton Park. Open space for interpretive play or field use near neighborhood detention area. 3 acre site.
- Hidden Pond Bike Path. Bike path that links other paths and areas together.
- Samuel Johns Park. 8 acre site with basketball court, soccer field, and playground.
- Knaack Park. Bike bath, ball field, and playground on 6 acres.
- Ladd Park. 3.5 acres with ball field, bike facilities, picnic tables and playground.
- Lapins Park. 1.5-acre site with a playground, benches and bike rack.
- Naoki Kamijima Park. Adjacent to the lake this park houses a storage facility for the Crystal Lake Rowing Club, two piers, picnic area and playground.
- Seminary Field. 4.5 acres of passive open space with a bike path.
- State Street Lots. Undeveloped property.
- Sterling Meadows Park. A playground, basketball court and path are in this 5 acre site.
- Winding Creek Park. This park is 9 acres with a bike path and two ponds.
- Woodland Estates Park. 13.5 acres with playground, courts, ball field, and bike facilities.
- Wyndwood Park. 5 acres site that includes a playground, soccer field and tennis court.

Pocket Parks are small neighborhood parks less than an acre that serve the area immediately surrounding the park area. The Park District lists two pocket parks.

- Della Street Park. 0.25 acres with playground and open space
- North Shore Property. Open area near the lake.

The Crystal Lake Park District Master Plan provides a detailed description of these sites and future maintenance responsibility in terms of equipment and costs. The Crystal Lake Park District is an Illinois Association of Park Districts Distinguished Agency and has received statewide recognition many times for outstanding programs and facilities. Park district residents have indicated a strong desire for a community center and outdoor aquatic facility. Provision of these amenities in the near future is a priority of the park district.

City of Crystal Lake

In 2010 the City opened Three Oaks Recreation Area. This area provides a unique recreational experience. The site is over 400 acres and offers swimming, boating, fishing, hiking, sledding, picnic areas, concession area featuring Culvers restaurant, lake house and spray park and playground. This area is owned and managed by the City. It is adjacent to many desirable properties along Route 14. Redevelopment of those properties so their uses can be symbiotic with Three Oaks is a priority.

- Lake house. This is a 4,400 square foot building that includes showers and locker room and staff offices. As part of this building is Culvers restaurant for concessions and an outdoor seating patio.
- Playground and Spray Park. The playground area contains modern equipment including slides and swings. The spray park is a collection of equipment that has a variety of water discharge areas.
- Picnic Grove. The main pavilion is a 2,000 square foot area set in the grass area overlooking the lake that has several tables and an outdoor fireplace. There are two other smaller picnic pavilions. All pavilions are available for rent.
- Lake and Beach. The lake is a reclaimed gravel mine which is fed from pristine underground streams. There is a large sand beach area and two lakes, the main lake and a smaller lake for young children.
- Trails. There are paved and gravel trails around the Three Oaks Recreational Area where people can walk or ride bikes around the site.

Individual Recreation, Goals, Actions and Indicators

8.1 Crystal Lake Park District



Goal:

Preserve, protect and enhance the City's open space and natural resources, through cooperative efforts between the City and the Crystal Lake Park District.

Open space is often overlooked and planned as an afterthought during development. Both passive open space and active recreation uses are important to one's quality of life and make Crystal Lake a good place to live. The Crystal Lake Park District is the most active group in the area for the acquisition and creation of active recreational areas.

Passive recreation opportunities are also important. Any type of open space helps people reconnect to nature and it should be a priority of the City to ensure that open space continues to be a development priority.

	Supporting Actions	Success Indicators
8.1a	Support the Park District in achieving its goals.	Number of development applications and building permits approved for work in the parks.
8.1b	Coordinate City plans and ordinances with the Park District Master Plan.	The annual review of Comprehensive Plan elements to ensure synchronization between multiple documents. Periodically review the impact fee contributions required to the Park District.
8.1c	Work with property owners or developers to add additional land to parks and open space inventory.	Number of property acquisitions or donations to the park district. Number of property acquisitions, donations or easements to the City of Crystal Lake, MCCD, Land Conservancy, Openlands, Environmental Defenders of McHenry or other similar group. Encourage developers to incorporate green space as part of their development plans.

Individual Recreation, Goals, Actions and Indicators

8.2 City Facilities







Goal:

Enhance the City's quality of life by providing and maintaining passive and active areas of recreation.

The City has opportunities to protect natural areas and create passive and active recreation areas, which add to the quality of life. The city's premiere attraction is Three Oaks Recreation Area.

	Supporting Actions	Success Indicators
8.2a	Promote Three Oaks Recreation Area as one of the City's main attractions.	Number of annual visitors to Three Oaks. Number of events held at Three Oaks. Creation of recreational programs to meet community needs.
8.2b	Encourage the development of open space, greenways, trails, parks or other preservation easements.	Number of permanent preservation easements for landscape, tree or other open space protection. Number of new development plans that contain some type of open space protection or park type. The use of Transfer of Development Rights to preserve open space.
8.2c	Work with other organizations in their pursuit to acquire, protect, preserve or restore sites or natural features on a site (wetland, oak stand, etc.).	Number of properties acquired by other organizations (Land Conservancy, McHenry County Conservation District, Openlands, Environmental Defenders of McHenry County, etc). The number of public outreach and education activities



Chapter nine

Historic Preservation

Introduction

In 1840, the Village of Crystal Lake was officially platted by Beman Crandall, Christopher Walkup and Abner Beardsley. The original boundary was Virginia Street to the north, Lake Street to the south, McHenry Avenue to the east and Dole Avenue to the west. Soon after a rail line was built along what is now Dole Avenue to bring the ice harvested from Crystal Lake to the City of Chicago. This rail line also brought visitors from the City to this wonderful area. Crystal Lake began to grow as many of these visitors built permanent or vacation homes in the area. In 1914, the Village of Crystal Lake and the Village of Nunda were consolidated as the City of Crystal Lake.

The Crystal Lake Historic Preservation Commission is a certified local government that administers the Historic Preservation Ordinance and considers requests for Landmark status, Certificates of Appropriateness, and Grant requests. The Commission conducts the Annual Heritage Tour, which is a narrated route around a new theme each year. The Heritage Tour is a way to compile and showcase Crystal Lake's rich heritage.

Key Elements

This section of the Comprehensive Plan will focus on the following elements:

9.1 Landmark Program

9.2 Historic Downtown Crystal Lake

9.3 Historic Preservation Commission

Key Element Details, Actions and Indicators

9.1 Landmark Program


Crystal Lake HPC

135 College Street. The Van Natta House, South

This house represents folk Victorian Architecture with cross gable configuration, granite fieldstone foundation, narrow clapboard siding and wide frieze boards below the eaves. The structure was constructed in 1885 and was originally part of a larger structure which included 127 College Street. The structure was split and the two homes were relocated to where they are now.

Goal:

Preserve Crystal Lake's historic properties through education and funding.

The Landmark Program bestows legal protection to a property for the purpose of preserving its public character and history. There are currently 15 properties which have requested and have been granted local landmark status, 11 residences, 2 commercial properties and the Lake Avenue Cemetery. Landmark status only protects the integrity of the public experience and does not apply to private spaces. In the case of a home, the façade is protected, but not the interior. As a landmark property changes owners over time, the preservation commission will be active in its continuing care and preserving its history. The following is a list of properties that have received landmark status:

- Colonel Palmer House, 660 East Terra Cotta Avenue
- Hale House, 86 North Walkup Avenue
- Van Natta House, 127 College Street
- Collen House, 70 North Caroline Street
- Lake Avenue Cemetery, 459 Lake Avenue
- Olson House, 87 Elmhurst Street
- Raue House, 25 West Crystal Lake Avenue
- Andrew Pierson House, 263 King Street
- Columbus Wallace House, 36 North Virginia Avenue
- Van Natta House South, 135 College Street
- Dole Mansion, 401 Country Club Road
- Peterson House, 200 West Woodstock Street
- Arwin Bauer House, 86 Dole Avenue
- Bertram house, 50 North Caroline Street

Once a property receives the landmark designation changes to the public elements require a Certificate of Appropriateness from the Commission. These properties are also eligible to seek grants for improvements.

The Historic Preservation Commission sets aside funds every year for its grant program. The program assists owners of historic properties by providing matching funds for renovations to the property, which restore or improve its historical integrity.

	Supporting Actions	Success Indicators
9.1a	Educate property owners on the benefits of establishing landmark protection for a property.	Increase in the number of landmark property requests annually. Increased availability of descriptive materials regarding the landmark program, including web site information, handouts and word of mouth.
9.1b	Continue to financially assist landmark properties.	Annual allocation of grant funds. Increase in the requests for grant funding.
9.1c	Showcase landmark properties in the City.	The installation of plaques on the exterior of a landmarked property. The inclusion of landmarked properties on the Annual Heritage Tour and on the website.
9.1d	Preserve, restore and appropriately renovate historic properties.	The increase in the number of landmark requests with subsequent certificate of appropriateness requests. The number of educational materials available about appropriate renovations of historic properties.


Crystal Lake HPC


Crystal Lake HPC

Key Element Details, Actions and Indicators

9.2 Historic Downtown Crystal Lake



Goal:

Promote and preserve the historic characteristics of the Downtown.

Downtown Crystal Lake is 0.169 square miles in area and features a number of historic buildings built in the late 1800's and early 1900's. Historic buildings in Downtown showcase Crystal Lake's early history. During this early period in its history, Crystal Lake earned nationwide fame with a manufacturer of terra cotta and TECO pottery. Since the material was manufactured locally, many building in downtown are adorned with this material, including the Raue Center for the Arts.

In 1985, the City of Crystal Lake adopted a Tax Increment Finance (TIF) District, which has since expired in 2008. The TIF funds were used to complete improvements throughout Downtown, including a new gazebo, street paving, new sidewalks with clay paver pedestrian areas, new planters with landscape, new directional signage and new benches and other street furniture. These improvements achieved some of the goals outlined in the 1996 Downtown Comprehensive Plan.

Downtown is designated a Premier Main Street Community. The Main Street program is an economic development, preservation based program to restore and revitalize the historic downtown. This group works closely with the business community to support their needs and activities and events downtown. Each year, the Johnny Appleseed Festival, Festival of Lights Holiday Parade and Breakfast with Santa and many other events highlight the rich history of Crystal Lake and bring visitors Downtown to experience the architecture and visit the shops and restaurants.

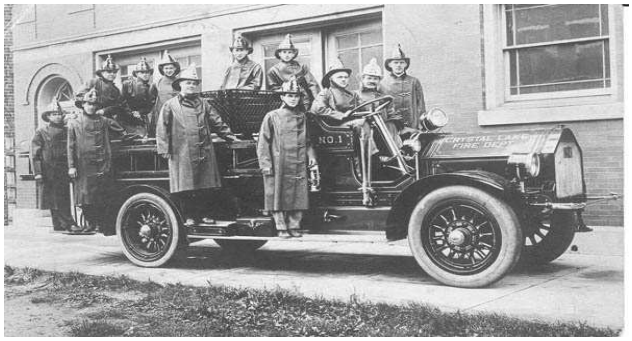
At the time of drafting this Comprehensive Land Use Plan, there was discussion regarding the creation of a Downtown Historic District. The Historic District would provide local protection to the buildings in Downtown. If adopted, this district would enhance and preserve the unique character of Downtown through regulations regarding changes to the buildings or sites.

	Supporting Actions	Success Indicators
9.2a	Maintain Downtown's unique and historic character.	The number of permit reviews completed for projects within the Downtown that meet the requirements. The number of permits rejected for projects within the Downtown that did not meet the requirements. The adoption of a Downtown Historic District.
9.2b	Promote festivals, events and activities that bring people to Downtown.	The continuation of various downtown festivals and events. The increase in the number of events or promotions for Downtown. Increased participation of the Downtown businesses in the I Shop Crystal Lake website and promotions.
9.2c	Promote Downtown housing.	The increase of the number of rental units above commercial space. The implementation of parking alternatives.



Key Element Details, Actions and Indicators

9.3 Historic Preservation Commission



The Crystal Lake Fire Department in 1914.
Crystal Lake Historical Society

Goal:

Support the Historic Preservation Commission and its endeavors in the preservation of historic properties, the Annual Heritage Tour and grant funding.

The Historic Preservation Commission (HPC) was formed to oversee the historic properties in the City. The HPC hears requests for landmark status, certificates of appropriateness and grants. The HPC completes or assists property owners with research on their historic property. This research provides the background on why this property is important to the City.

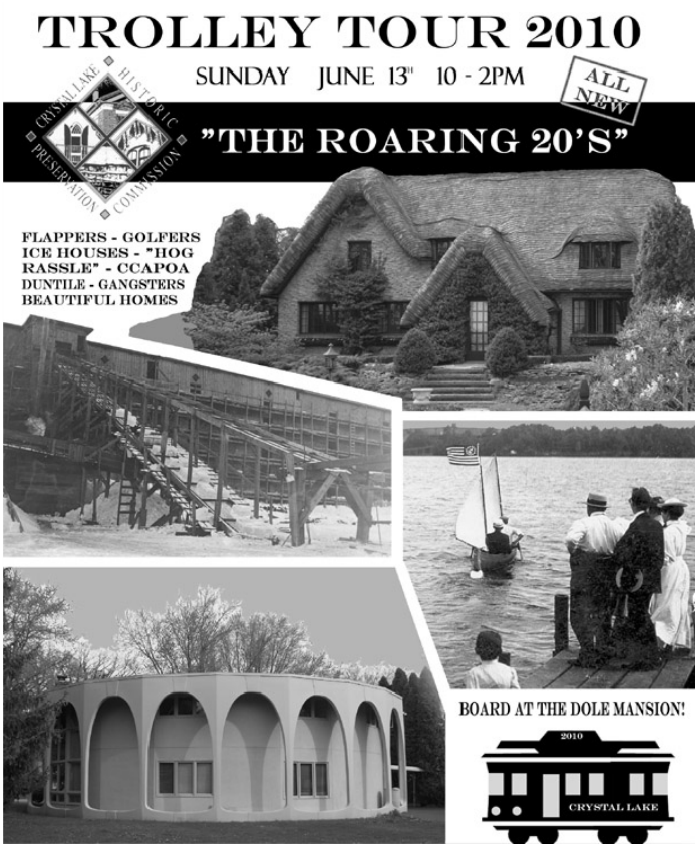
If a property is approved as a landmark by the City Council, the HPC installs a plaque on the home designating its original owner and year built. Landmark properties are required to have a Certificate of Appropriateness approved for any alterations that would affect the public experience of the property. These properties are also eligible for grant funds. The HPC reviews applications for grant funds based on the type of project and the amount requested. The grant funds provide an incentive for property owners to make appropriate historically correct alterations to their property.

The Historic Preservation Commission holds membership or works closely with other similar agencies including the Illinois Historic Preservation Agency, the Crystal Lake Historical Society and Landmark Illinois.

Historic preservation is important to the City. The preservation and promotion of our history is something unique that can be a draw for economic development and tourism.

The Commission also organizes and presents the Annual Heritage Tour. This tour began as a walking tour and has evolved into a trolley tour with a new theme and route every year. The HPC puts together a fully illustrated book on the selected properties, with each property's history and interesting facts detailed in narrative form. These books are preserved as part of the historical record of Crystal Lake. The funds generated from this annual tour are used to fund the grant requests.

	Supporting Actions	Success Indicators
9.3a	Encourage the Historic Preservation Commission to educate the public on the benefits of landmark status.	Increase in number of landmark properties. The increase in the availability of materials explaining the landmark process.
9.3b	Support the Historic Preservation Commission.	The City's continued funding of the Historic Preservation Commission's memberships and activities. The continued attendance of City staff at HPC meetings. The maintenance of the HPC website information.
9.3c	Promote the Annual Heritage Trolley Tour.	Increase in advertising to the public about the tour. Increased revenue from commercial sponsors. Increased ridership.
9.3d	Educate the public on the historical properties and resources important for preservation.	Historic Preservation Commission's creation of the Heritage Tour books. Collaboration between the HPC and Historical Society on the acquisition and preservation of documents and photographs related to the historic properties.





Chapter ten

Northwest Sub-Area

Introduction

The Northwest area of Crystal Lake is comprised of approximately 12 square miles. The area lies primarily north of Route 176, follows the boundaries of the City along the west and the watershed boundary along the east and is bisected by Route 14 and the Union Pacific Railroad. See Location Map, Exhibit A and Boundary Map, Exhibit B for further clarification.

The northwest area is the last large area that remains underdeveloped in Crystal Lake. As public utilities are being extended to the area, future development is likely to occur. This section establishes the standards for that development. This area has many unique elements that merit protection and responsible development. This section identifies the characteristics of the area including natural features, watershed development and current land uses. It also establishes development standards through the Conservation Overlay to ensure thoughtful future growth and protection of natural areas and green space.

Existing Conditions

The area is comprised of 5 main elements: Watershed, Ridgefield Corridor, McHenry County College, Rural Residential and Farmland/Green Space.

Watershed

The primary recharge for Crystal Lake occurs within the five square miles north of the lake, a significant portion of which is within this sub-area. The watershed acts as a filter for the lake when rainwater percolates through the soil and eventually flows to the lake. In 1975, the City commissioned the Crystal Lake Watershed Study, which provided a basis for watershed protection. In 2007, the City adopted the Crystal Lake Watershed Stormwater Management

Exhibit A

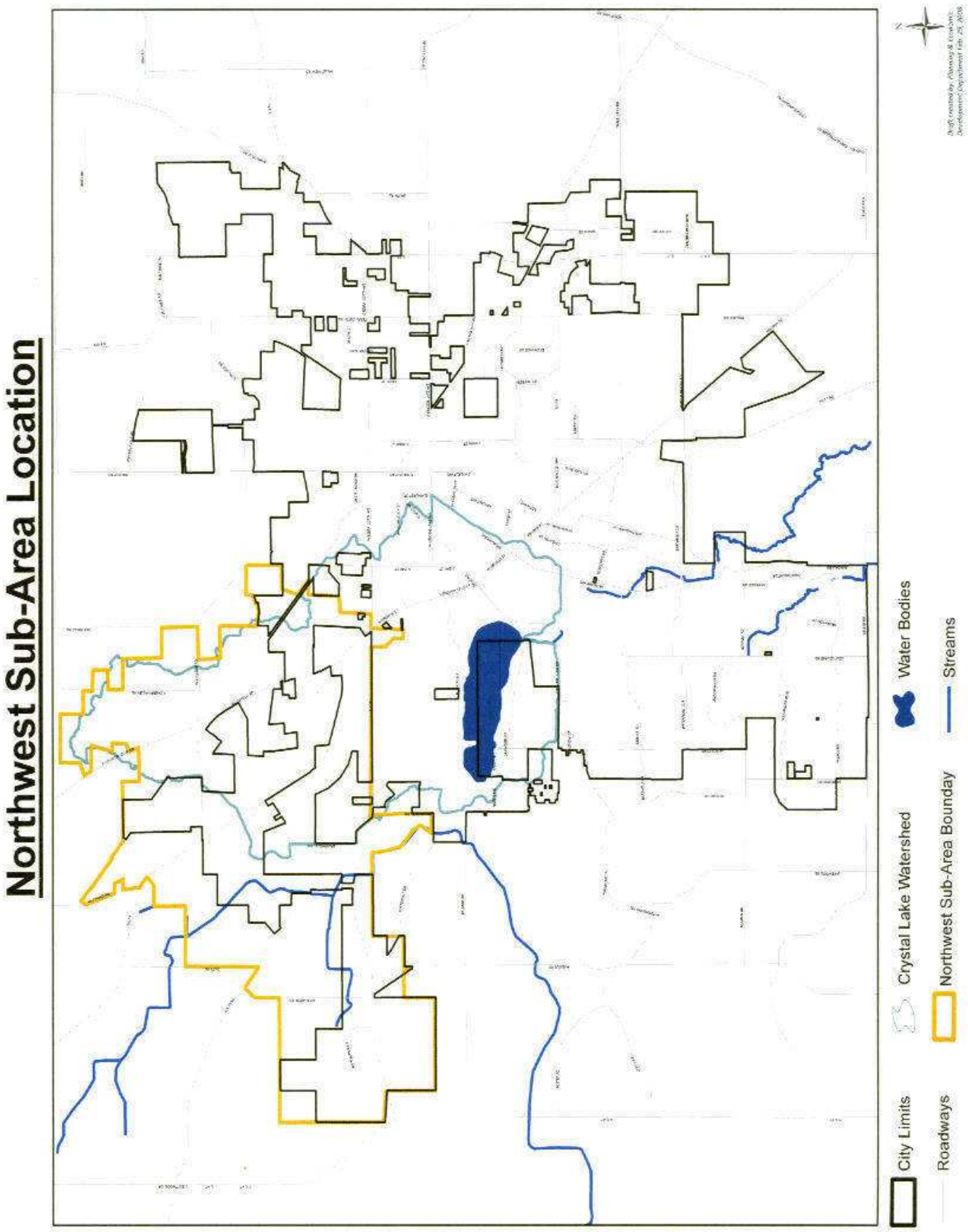
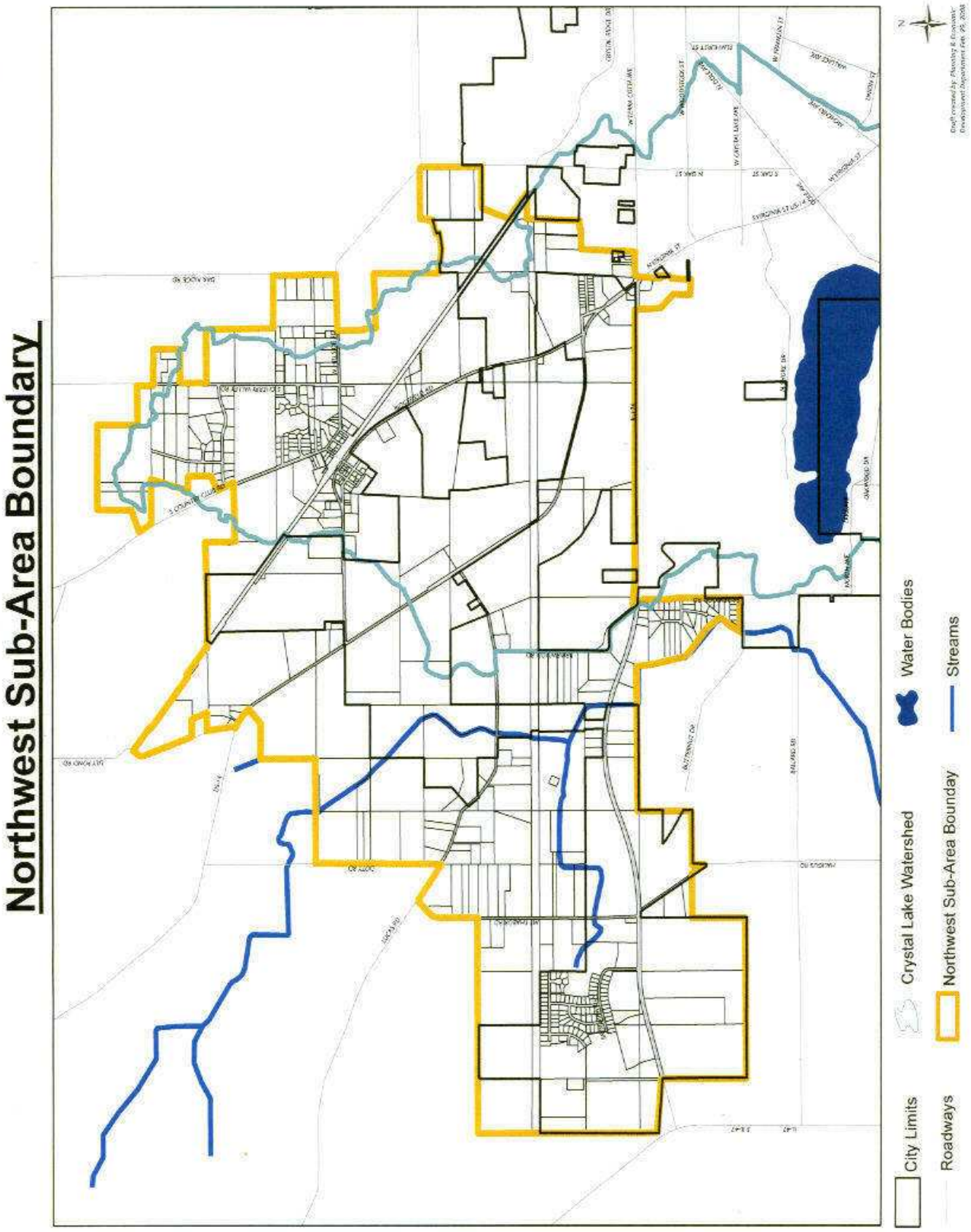

Northwest Sub-Area Location
Water Bodies
Streams
Crystal Lake Watershed
Northwest Sub-Area Boundary
City Limits
Roadways

Exhibit B


Northwest Sub-Area Boundary
Water Bodies
Streams
Crystal Lake Watershed
Northwest Sub-Area Boundary
City Limits
Roadways

Design Manual which discusses the numerous design practices available to treat and improve water quality entering the ground or flowing over land. The Design Manual provides examples and design possibilities to allow for development and minimize impacts to or improve the quality of the lake, limiting the possibility of pollution. The Design Manual, the Unified Development Ordinance and the Comprehensive Land Use Plan, provide guidance for future development of the watershed boundary area.

Ridgefield Corridor

The Ridgefield Corridor is an existing residential and industrial area located on the southwest and northeast sides of the Union Pacific Railroad at Hillside Road. This area is under the jurisdiction of McHenry County and is largely rural due to the lack of City utilities in the vicinity. The Comprehensive Plan element for the Ridgefield Corridor describes the need to preserve the character while preparing for redevelopment of the area. It is likely that when City utilities become available in this area, increased density and a mix of uses will occur, benefiting from the proximity to the rail lines. This plan provides guidance for possible mixed-use redevelopment in this area.

McHenry County College

Located just south of Ridgefield Corridor, McHenry County College (MCC) is situated on 112 acres of property. The site is currently improved with college classrooms and administration buildings, ancillary parking lots and ball fields. The 44 acres north of the existing campus buildings are being used for crop farming and ancillary parking. MCC desires to develop the 44 acres currently under their ownership with the possible long-term development of 57 acres farther to the east, located on either side of Tartan Drive. The City encourages the expansion of MCC and its services.

Rural Residential

With the exception of MCC and Ridgefield, the eastern portion of the sub-area has been developed as rural residential. These small subdivisions, which are characterized by larger lots with well and septic systems, were approved through McHenry County. Rural residential development promotes low densities, but not necessarily good conservation design. The rural residential pattern promotes sprawl development by requiring expansive lengths of roadways and utilities to serve a relatively low number of homes. In addition, rural residential development in this area is within the watershed and the well and septic systems are not desirous in the Crystal Lake watershed. Although rural residential does have a place in City development, its use should be limited and it should not be a substitute for green space preservation.

Farmland / Green Space

The portion of the sub-area to the west and along Route 14 is still predominantly farm land. The area to the west drains away from Crystal Lake and is not part of the Crystal Lake watershed, but part of the Upper Kishwaukee River Watershed. Farmland is slowly converting to single-family residential subdivisions throughout the Country as land becomes more scarce and homebuilders desire to expand. This area will likely follow similar development patterns unless a planned approach is instituted. Good conservation design, natural area protection and limiting sprawl will be key components to developing this area. Protection of some of the existing farmland through a Transfer of Development Rights Program and deed restrictions are possible for this western area.

Natural Features

This northwest area is graced with many desirable natural features, including marshes, woodlands, prairie areas, wetlands and a portion of the Kishwaukee River. These natural areas function to cleanse water, provide wildlife habitat and offer educational and recreational opportunities—all contributing to the quality of life within Crystal Lake.

Several of these features are included in the McHenry County Conservation District's Natural Areas Inventory. The complete inventory list with photos and details can be obtained from MCCD. Protection of these natural features with buffer areas, respectful development, and best management practices is imperative. In addition to the protection of these core natural features, large areas of green space connecting the features should also be preserved. The natural features are labeled on Exhibit C and detailed below. Also described after each site is the required buffer area. A 100-foot buffer from all identified sites and the preservation of all oak tree stands is recommended in concert with MCCD recommendations.

1) Site 1 is an existing undisturbed grove of trees including a small creek, identified as Resource Conservation by the City of Woodstock. Only a small portion is within the sub-area, but care should be taken to protect this feature. Although not identified by MCCD, the preservation of undisturbed areas is as important as other identified natural areas. A buffer of 100-feet should be established from the edge of the tree grove and around the creek. The land use map has been amended to show this area as open space.

2) Mt. Thabor Marsh, identified by MCCD. Marshes have similar features to wetlands and create a habitat area. A 100-foot buffer should be established around the marsh to preserve its quality. An additional green space link should be provided between site 1 and site 2 to create connectivity.

3) Route 47-Route 176 Marsh as identified by MCCD, contains two large water areas surrounded by an undisturbed grove of trees. Development and destruction of this natural feature should be prohibited. A 100-foot buffer should be established from this marsh/wetland.

4) A series of small depressional areas which retain water surrounded by trees and shrubs. This feature is noted on the map because it is unique, although it is not formally identified by MCCD. A 100-foot buffer should be established and links to site 3 are possible.

5) Site 5 is Mt. Thabor Marsh east, identified by MCCD. This marsh has less water and more plantings than the other marshes. This site links directly to sites 6 and 7. A 100-foot buffer should be established around site 5.

6) Route 176 Sedge Meadow is identified by MCCD as a natural feature. This meadow is a large grassy area filled with a variety of plants perfect for wildlife habitat. Included with this area are several wetlands adjacent to the Kishwaukee River. A 100-foot buffer should be established around this entire element.

7) Kishwaukee River branch. The Kishwaukee River is a high-quality feature that supports life along its banks and the surrounding areas. Although this is only a small branch, the quality of the river and surrounding habitat area shall be protected. A 100-foot buffer should be established from the river bank.

8) Muskrat Pond, identified by MCCD, is a small pond surrounded by undisturbed bushes and grasses. A 100-foot buffer should be established from the outer limits of the grass area surrounding the pond.

9) Site 9 is Lily Pond Marsh, identified by MCCD. This feature straddles the rail line and a portion of this feature is located within the sub-area. This site has very little undisturbed surrounding area because it has been farmed. A 100-foot buffer should be established to protect the water quality of this feature. Opportunity exists to provide a green space connection between this site and site 8.

10) A dense cluster of high quality trees, identified by this Plan and ADID wetlands. Undisturbed trees should be preserved and a 100-foot buffer should be established around this area.

11) Ridgefield Prairie, identified by MCCD, is currently surrounded by and encroached upon by large lot single-family residences. A true buffer may not be able to be established due to the proximity of the existing residences. A 100-foot buffer should be established, wherever possible.

12) Country Club Road Wetland, identified by MCCD. This is a natural wetland protected by state and federal laws. This feature is surrounded by a large grove of undisturbed trees. A 100-foot buffer should be established from the MCCD boundary in order to preserve additional surrounding trees.

13) Site 13 is identified by MCCD as West Crystal Lake Prairie. This feature is located on a site currently improved with an industrial use. The site is currently undisturbed and a 100-foot buffer should be established to ensure its future protection in the case of expansion or redevelopment of this user.

14) Crystal Lake Watershed, identified by the City of Crystal Lake. The watershed is detailed within this Plan and in the City's development ordinances. Development within the watershed should be closely regulated to ensure compliance with best management practices for protection of the lake water quality and quantity.

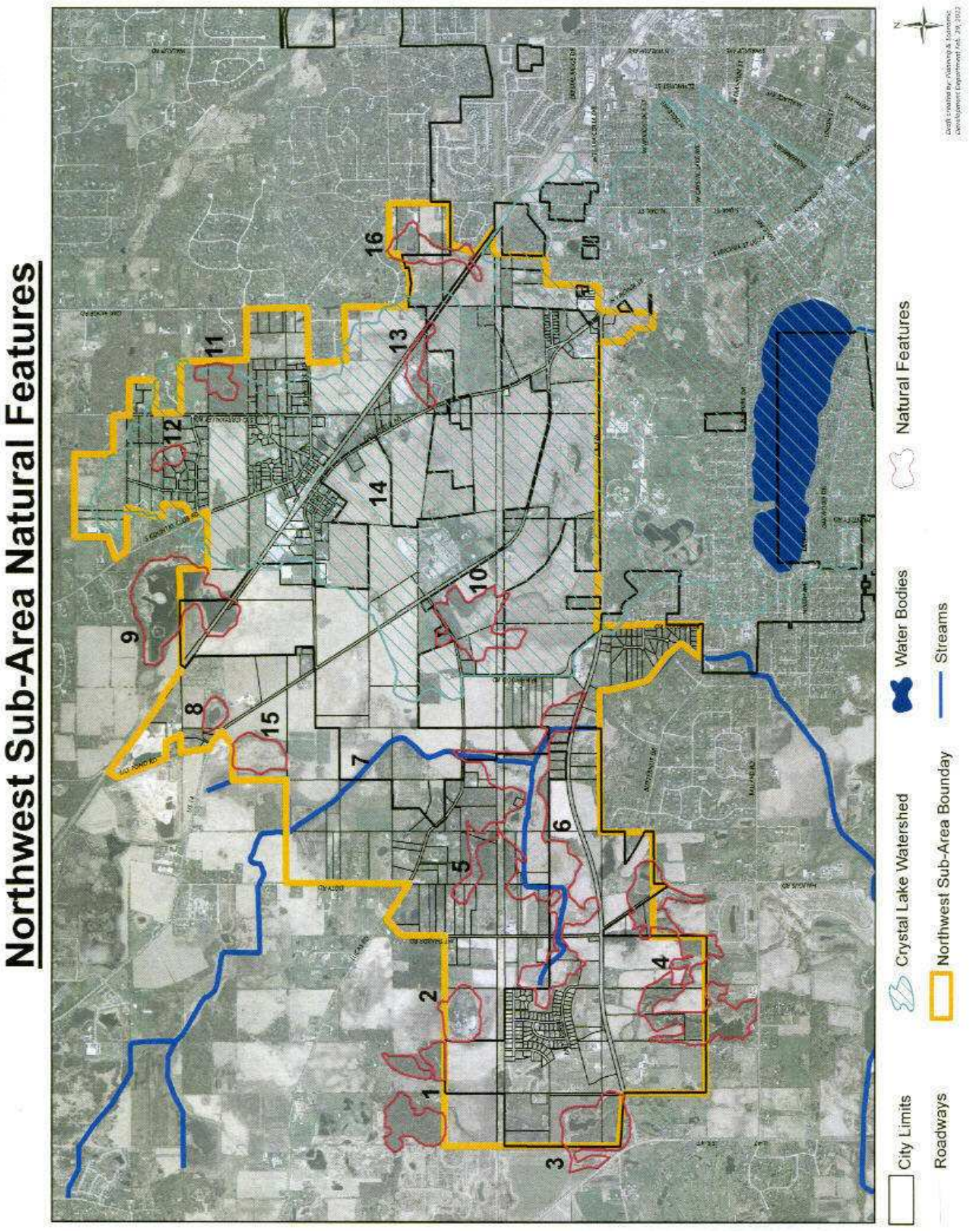
15) Freshwater emergent wetland as identified on the National Wetland Inventory.

16) Freshwater unconsolidated bottom wetland as identified on the National Wetland Inventory.

17) All oak tree stands shall be protected with a minimum 100-foot buffer. Development shall be planned so that removal of oak trees is not necessary or minimal at most.

Development which occurs within this sub-area should conscientiously be planned around the protection and incorporated into the existing natural features. Enhancement and expansion of these features should also be incorporated into development. Goals and objectives have been established for the protection of these natural features shown on Exhibit H within the Environment Preservation section.

Exhibit C


Northwest Sub-Area Natural Features
Natural Features
Water Bodies
Streams
Crystal Lake Watershed
Northwest Sub-Area Boundary
City Limits
Roadways
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

Current Approvals

Development has occurred both within the City and within the County throughout this northwest sub-area. Several properties have chosen to annex into the City and seek City zoning, see Exhibit D. Several of these properties, which have been annexed, enjoy specific zoning rights. All properties which had a specific watershed zoning (W-1, W-2, W-3 or W-4) are now zoned W after the comprehensive rezoning in July of 2009. They are:

1) Goldman property— On the north and south sides of the ComEd easement west of the UPRR. Currently, the site is utilized for farming and open land but the W– Watershed zoning would allow a mix of uses, including residential, commercial, office and other types of uses as permitted via a Watershed PUD approval.

2) McHenry County College— Annexed and zoned in 1985 to allow the college use.

3) Windy Knoll Estates — On the east side of the UPRR west of Oak Street with preliminary approval for 0.64 dwelling units per acre.

4) Kaper Property - On either side of Route 14 at Ridgefield Road North, annexed with a total of 451 acres. A mix of zoning uses was approved via the site-specific zoning amendment. Currently the site is utilized for an indoor soccer facility and farming.

5) Sunset Meadows — Crystal Lake Park District's property, north of Route 176.

6) Classic Oak— A retail store at the northeast corner of Routes 14 and 176, zoned W-Watershed and permitted all B-2 uses.

7) Auto dealership– located at northeast corner of Routes 14 and 176, annexed as-is and zoned W-Watershed and permitted all B-2 uses.

8) The Ridgefield corridor is zoned and developed under the County's jurisdiction. Much of this area is rural residential subdivisions and industrial users, but is not denoted on the City's zoning map.

Property on the western half of the sub-area is zoned predominantly E or RE. E requires a minimum 3 acre lot size and RE zoned lots require a 20,000 square-foot lot size. The following properties were annexed and zoned into the City:

1. Bailey— On the eastern edge of the Kishwaukee River bisected by the ComEd easement zoned RE with a variation to allow the use as a farmstead.

2. Herrick Trust—Just south of Bailey, north of Route 176, zoned RE.

3. Crystal Lake Union Cemetery— Northwest corner of Route 176 and Mt. Thabor Road, zoned E with a Special Use Permit for a cemetery.

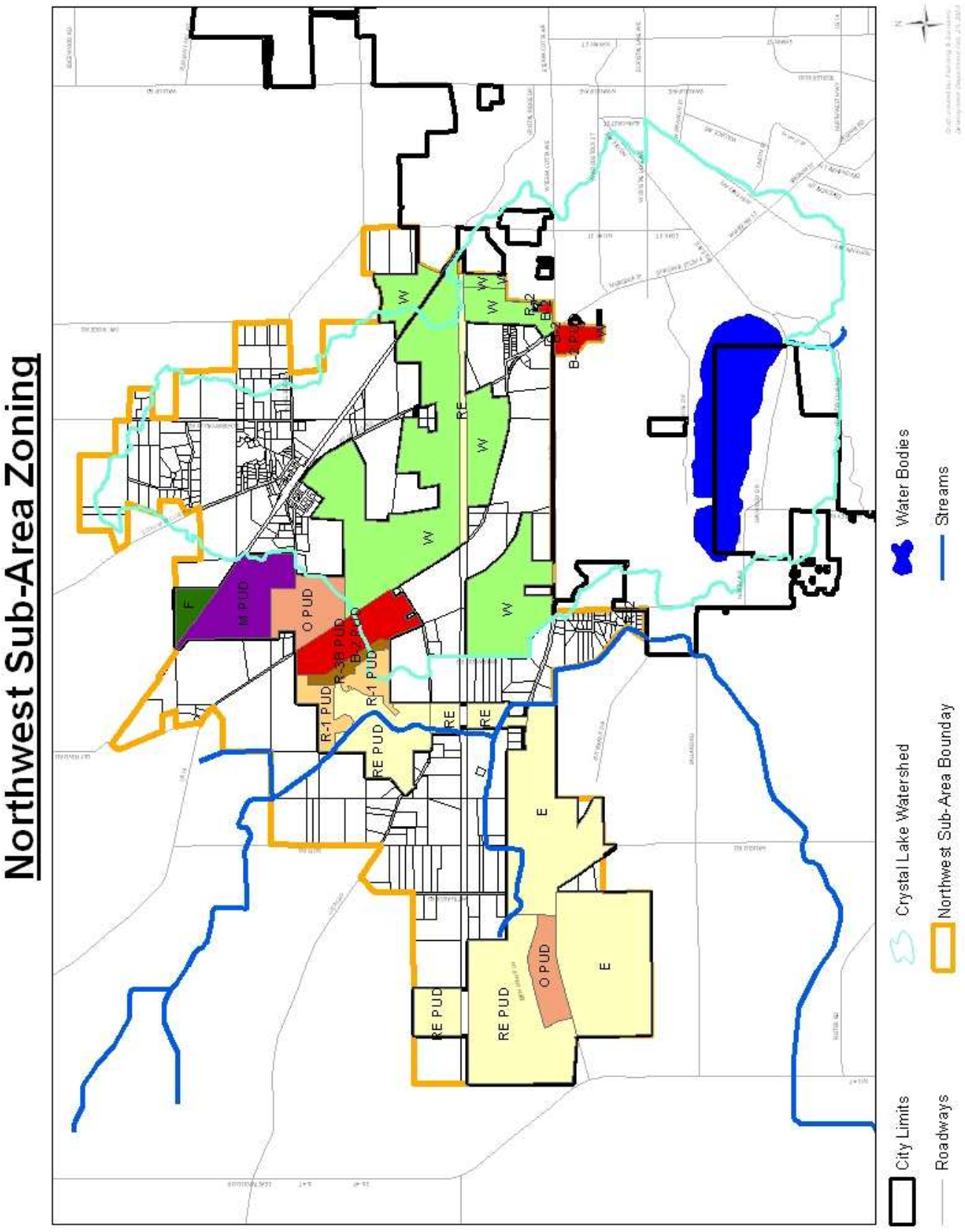
4. Weiler—Southeast corner of Routes 47 and 176 and NEC Route 176 and Mt. Thabor Road, zoned E, currently farmed and open land.

5. Bryn Mawr—Northeast corner of Route 47 and Route 176 zoned RE PUD and O PUD, both farmed and single family house development.

6. Various Owners—Southeast corner of Route 176 and Mt. Thabor Road, annexed by several petitioners all zoned E, all farmed.

7. Barton Stream—Northwest corner of Lucas Road and Route 14, zoned B-2 PUD, R-3B PUD, R-1 PUD and RE PUD.

Exhibit D


Northwest Sub-Area Zoning
VV
RE
E
F
M PUD
O PUD
R-3B PUD
B-2 PUD
R-1 PUD
RE PUD
B-2
Water Bodies
Streams
Crystal Lake Watershed
Northwest Sub-Area Boundary
City Limits
Roadways

Northwest Sub-Area Goals, Actions and Indicators

10.1 Watershed Protection





The Crystal Lake Watershed

Goal:

Endeavor to protect the watershed by monitoring the Crystal Lake aquifer recharge conditions, improving the quality of surface and sub-surface drainage, reducing accumulated nutrients in the lake and preventing harmful or haphazard development.

Crystal Lake's namesake lake is protected and partially recharged by the Crystal Lake watershed. Highest priority has been given to protect the lake and limit harmful development within the watershed area. The watershed area is approximately five square miles nestled between the Kishwaukee River watershed and the Fox River watershed. This is actually a sub-watershed for Crystal Creek. A significant portion of this area is currently farm and grasslands, but development of the area has and will likely continue to occur. Best management practices for stormwater control, water quality preservation, water infiltration and smart growth should be implemented as outlined in the Crystal Lake Watershed Stormwater Management Design Manual. Development has occurred within the Watershed in three distinct areas; McHenry County College along Route 14, Ridgefield Corridor along the Union Pacific Railroad and rural residential subdivisions on the eastern edge.

McHenry County College

McHenry County College (MCC) currently has 112 acres, approximately 68 of which have been developed with buildings, parking, sidewalks and detention basins. Future expansion plans could include the development of the north 44 acres with additional parking and buildings. Any development would require compliance with the Crystal Lake Watershed Stormwater Management Design Manual. The design manual requires pre-treatment basins to treat the water before it can be recharged into the ground to reduce land pollutants and debris from entering underground aquifers. Any improvements to the existing site and the future development of MCC's additional property, should be designed to meet the goals and objectives of the Comprehensive Plan and the design techniques outlined in the Design Manual.

Ridgefield Corridor

The Ridgefield Corridor is an existing industrial and moderate density single-family residential area developed under McHenry County's jurisdiction. This area is surrounded by farmland and large lot rural subdivisions. The corridor straddles the Union Pacific Railroad line, as illustrated to the right. Development is haphazardly concentrated around the rail line and wasn't not reviewed to ensure protection of the watershed. Most new development would likely be annexed and zoned in the City, presumably with connection to City utilities, when available to this area. It is expected that industrial users that require access to the rail line would continue to be attracted to this area.



Rural Residential

The area near Hillside and Country Club roads has been developed with larger lot rural subdivisions. These homes have been approved by McHenry County. There are no City utilities serving this area and the homes rely on private well and septic systems. The 1975 Watershed Study recommended removal of all septic systems when utilities are available. Additional large lot development may occur in this area, both in the County and, if properties are annexed, in the City. Future smart growth development will be encouraged.

The Northern Illinois Planning Commission (NIPC) now merged with the Chicago Area Transportation Study (CATS) to form the Chicago Metropolitan Agency for Planning (CMAP), prepared a set of fact sheets grouped as Building Sustainable Communities. In the report, "Building Green Infrastructure," NIPC states, "avoid large lot zoning (5 acres or more) as an open space preservation tool, as this typically results in sprawling development and does not maximize open space preservation benefits, especially if the majority of the five acre lot is converted to turf grass." The EPA's, "Protecting Water Resources with Higher-Density Development," report also discourages large lot rural development. The EPA states that lower density development requires substantially higher amounts of underground infrastructure, roadways and paved areas and uses up 100% of the land, and does not preserve large undisturbed green space. Higher density development allows for the same number of units to be constructed, but on a much smaller piece of property, thereby preserving larger green spaces.

Higher density development is also less expensive for the City because less miles of roadway and underground infrastructure need to be maintained. In this setting, high density development only works if the remaining portion of the property or adjacent properties are preserved as green space. An alternative to high density development would be limited lot disturbance within large lot development. This would allow for larger lots, but also create large undisturbed green space and corri-

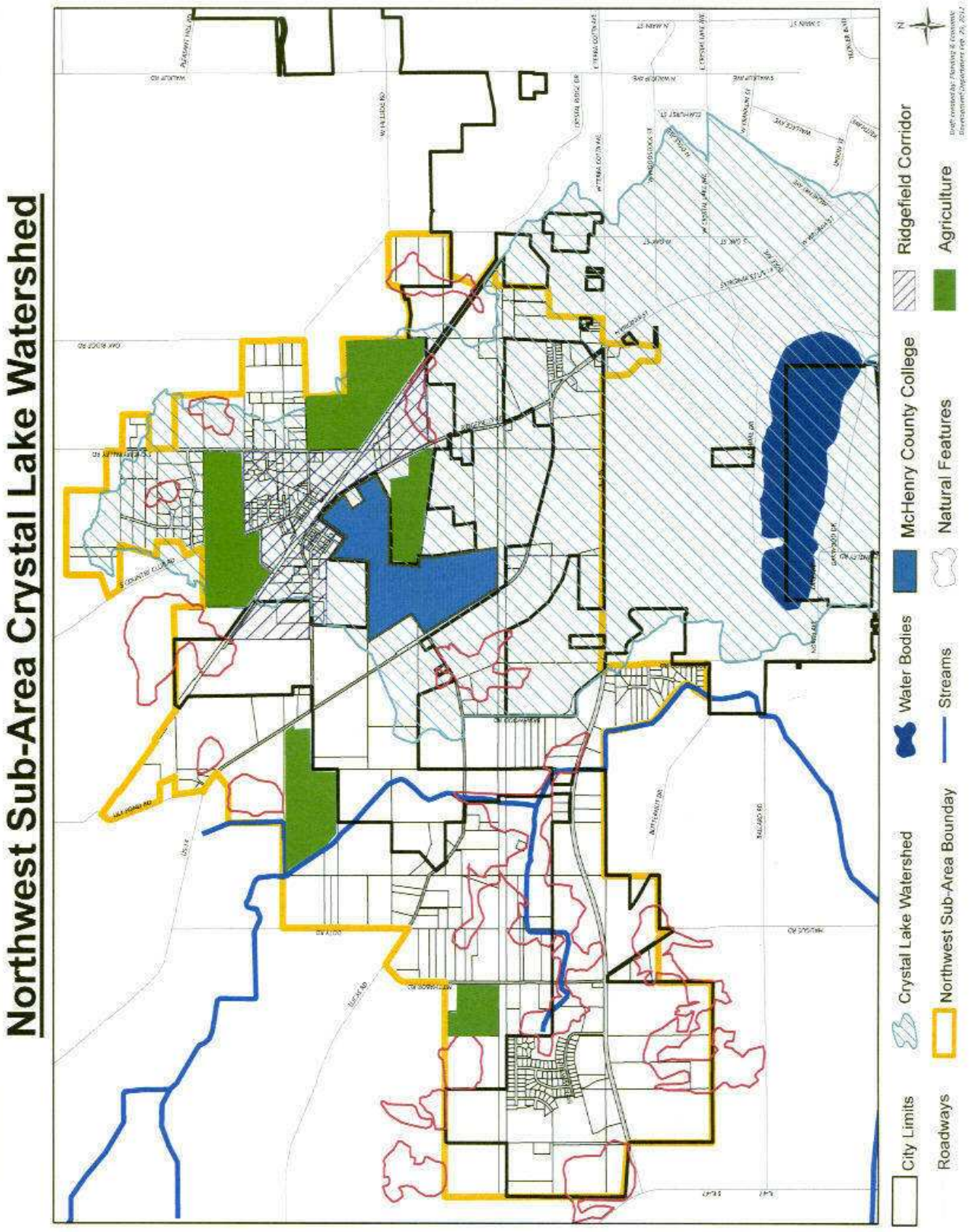
dors. Disturbance would be limited to what is necessary to construct a house, driveway, small grass yard and other construction work.

For example, a 5 acre lot allowed a 10% disturbance area, would equate to 21,780 square feet of disturbed area. This provides the area for a house, driveway, play equipment, yard and construction area. The remaining 196,020 square feet would be preserved in its natural condition. Within the City's Watershed area is Schafer Subdivision which has been designed with this idea. The lots are limited to 5% impervious coverage allowing 3,418 square feet of buildable area. The remaining portion of the lot is a conservation easement, which allows the protection of wetlands, habitat and natural open space.

New subdivision areas are encouraged to be designed as cluster subdivisions. Cluster development which preserves large areas of undisturbed green space is recommended due to the cost savings of underground utility and roadway construction and the preservation of the natural environment. The possible rural development of this area shall be closely reviewed to ensure that the properties protect the watershed and do not encourage undue sprawl and impervious area.

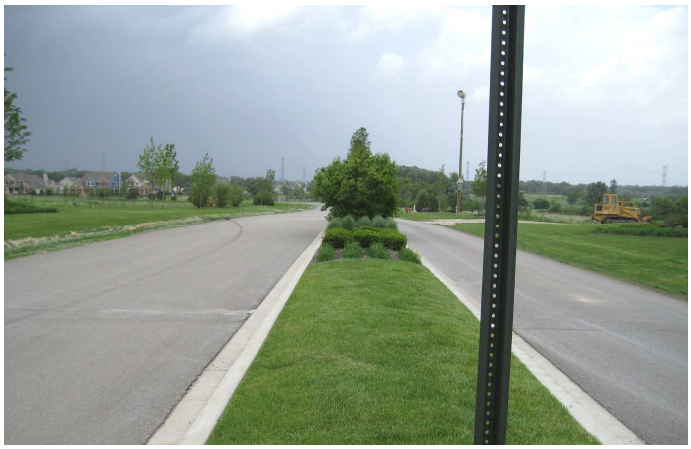
	Supporting Actions	Success Indicators
10.1a	Support development which improves the quality of the watershed.	All development meets or exceeds the required best management practices in the Crystal Lake Watershed Stormwater Design Manual. Increase in the installation of on-site BMPs with new construction projects. Increase in water quality at the lake.
10.1b	Encourage development and redevelopment which minimizes its impact.	Increase in development that utilizes minimal grading techniques (not mass-grading). Increase in the number of developments that install natural stormwater systems to handle onsite water.
10.1c	Require installation, repair, or restoration of natural features.	Increase in the number of projects that plant native trees or landscape materials.
10.1d	Utilize conservation design techniques in all development plans.	Increase in the construction of cluster designed subdivisions. Reduction of impervious surfaces in new developments verses traditional developments. Increase in the preservation, conservation and donation of large natural areas.

Exhibit E


Northwest Sub-Area Crystal Lake Watershed
Ridgefield Corridor
Agriculture
McHenry County College
Natural Features
Water Bodies
Streams
Crystal Lake Watershed
Northwest Sub-Area Boundary
City Limits
Roadways

Northwest Sub-Area Goals, Actions and Indicators

10.2 Transportation





Goal:

A transportation network which includes both automobile and alternative modes of transportation that is planned in conjunction with development and conscientious of natural resources or other site features.

Transportation

The efficient movement of people throughout this area to other parts of the City and to surrounding areas is critical for proper development and redevelopment of the area. Single occupancy vehicles are still the most used means of transportation in this area because of limited alternative mass transit options. In light of this, the existing transportation network should be planned for continued growth with the redevelopment of this sub-area. Existing roadways should be upgraded and new roadways should be installed to ensure an adequate roadway network. While the exact design and layout of each roadway cannot be specifically determined at this point in time, an ultimate plan or vision has been established. A Traffic Planning Study, available through the Engineering Department, was initiated in January 2007, which outlines the necessary roadway network. This vision shall be refined with each new development in this sub-area as part of the developers traffic study requirement. This Study in conjunction with the recommendations in the Comprehensive Plan shall set the requirements for transportation improvements in this area.

Automobile Transportation

Roadway Classifications

Each roadway has a functional classification that contains distinct characteristics regarding right-of-way, pavement width, speed limits, access point spacing, etc., which are summarized in the roadway classification section in the UDO. Exhibit F shows the ultimate roadway design classifications anticipated within the sub-area. Note that the roadway network shall be designed to easily accommodate future expansion to this ultimate classification. It should be noted that Route 14 and Route 176 within this sub-area are under the jurisdiction of the Illinois Department of Transportation (IDOT) and classified as Strategic Regional Arterial (SRA) routes. SRA routes were created to es-

tablish a broad developed design concept for arterial improvements so that high volume movements may be made with minimal interruptions. The SRA planning study must be used in conjunction with other City and IDOT requirements when developing the roadway geometrics for either of these roadways.

Roadway, Driveway, and Parking Lot Design

In order to meet some of the goals of conservation design with respect to roadway configuration, the City may be willing to allow some flexibility in its standards for items such as pavement width, material type, sidewalks, and curbing. These may be edge treatments, rain gardens, alternate surfaces, sidewalk/path variations, roundabouts, and shared access points.

Transportation Improvement Concepts

Ridgefield Road Extension. A future east-west collector roadway extending Ridgefield Road from Route 14 to Doty Road is recommended. As a true collector, direct residential driveway access would not be permitted.

Ridgefield Road/Route 14 Re-Alignment. Per IDOT's preliminary improvement plans, this intersection should be realigned to an angle closer to 90 degrees to enhance sight lines and safety.

Briarwood Road Extension. A future north-south collector roadway extending Briarwood Road north to Ridgefield Road is recommended. Between Lucas Road and Ridgefield Road, this collector would parallel Route 14 and serve as a buffer between possible commercial and residential developments.

Briarwood Road Re-Alignment. Briarwood should be adjusted through the Park District property to straighten the existing 90 degree curve.

Mt. Thabor Road Re-Alignment. If in the future it is possible to consolidate the intersections of Mt. Thabor Road and Doty Road with Lucas Road into a single 4-leg intersection, the illustrated option on Exhibit F should be explored.

Route 14 Access. Spacing between full access points to Route 14, which is designated as an SRA, should be a minimum of ¼ mile. However, ½ mile spacing with cross-access and frontage roads should be explored as the primary option. IDOT approval for any access to Route 14 will be required.

Future Roadway plans. As development proceeds, right-of-way will need to be preserved and dedicated to address existing sight line concerns and allow future expansion.

Alternative Transportation

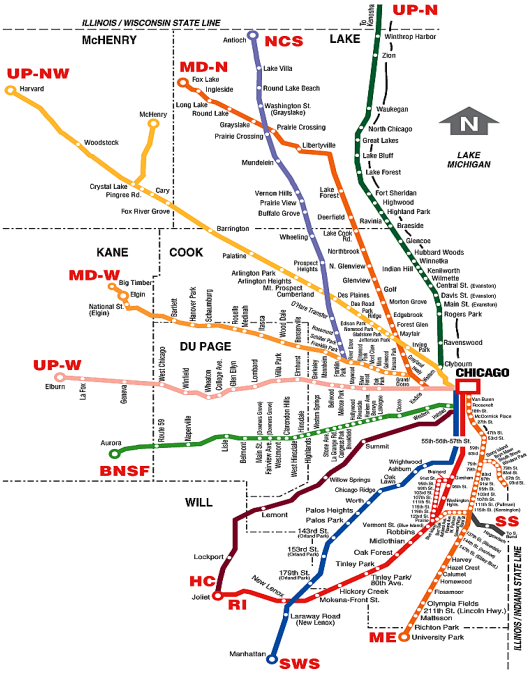
Bicycle Path Network

Bicycle transportation is increasing around the world. Making the choice to bike can help burn up to 25 calories per mile while joining in the efforts to reduce detrimental pollutants released into the air. If people used bikes to run short errands half the time, it could save more than 1,100 lives a year in 11 Midwestern cities, thanks to reduced air pollution and improved health, figuring people would bike 4 months out of the year, according to scientists at the University of Wisconsin, pub-

lished in the journal *Environmental Health Perspectives*. In order to become more bike friendly, many cities are implementing programs to install new off-street and on-street bike lanes. The City of Crystal Lake is also reviewing how more bicycles and fewer automobiles can travel throughout the City. The locations shown on Exhibit F regarding the proposed/planned bicycle paths were compiled using the latest available information from various stakeholders including the McHenry County Conservation District (MCCD), IDOT, McHenry County Division of Transportation (MCDOT), and the City of Crystal Lake. These routes may be subject to change and these agencies should be consulted as part of the development process for any properties in this sub-area. All bicycle paths must meet the Americans with Disabilities Act (ADA) and Illinois Accessibility Code requirements for accessibility. To facilitate a bicycle friendly City, developers may be required to include bicycle path or sidewalk connections to the main network of trails, within their plans. Opportunity exists to provide these paths or connections on residential collectors and local streets as a separated bike lane within the roadway pavement. On-street bike paths should be examined as developers prepare engineering roadway plans.

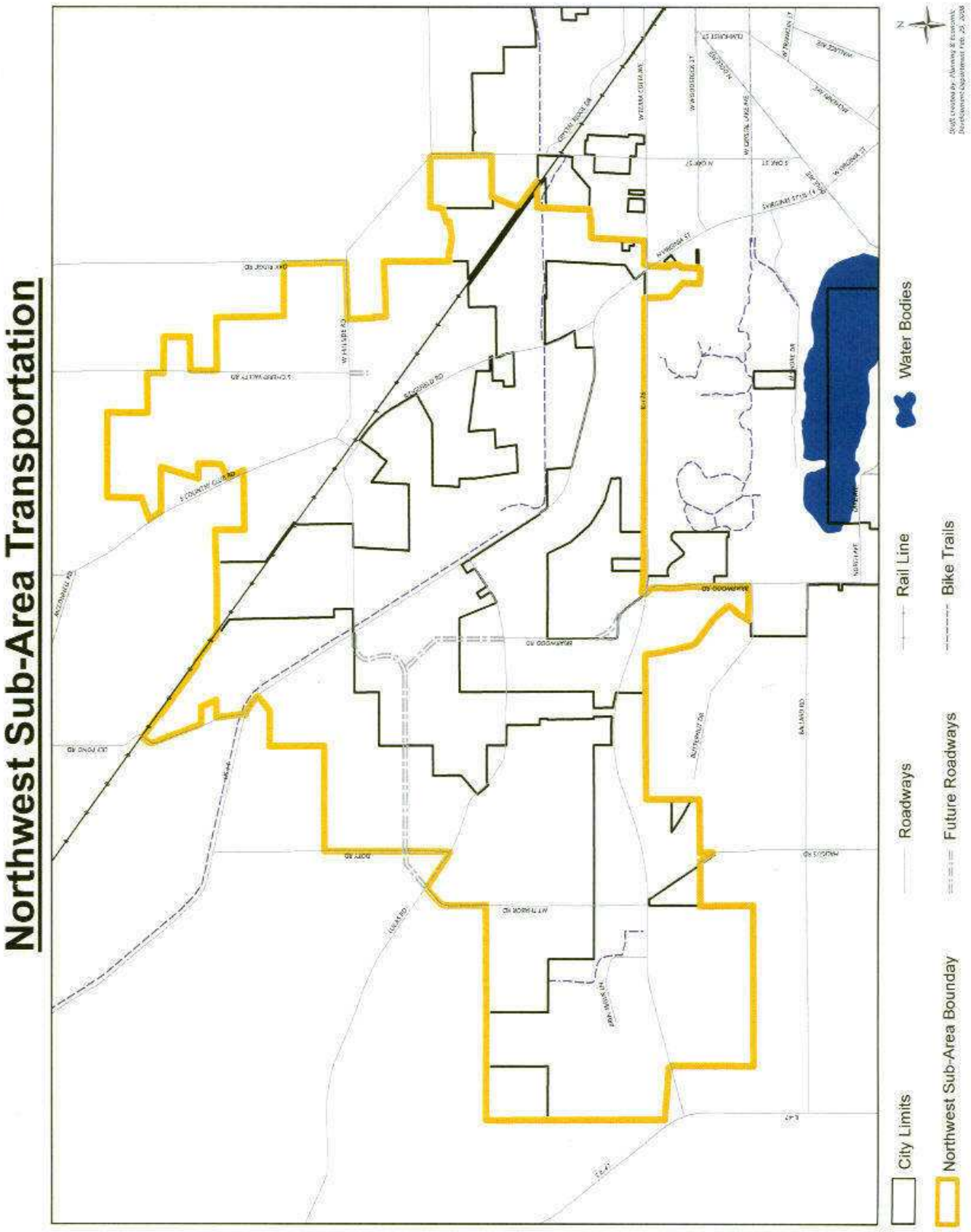
Transit

With increased development in this sub-area, public transit options should be integrated into the overall transportation network. Pace currently offers service in the Route 14 corridor and Metra is continually evaluating other service enhancements to this Northwest line. Development of the roadway network in this sub-area should take on-street mass transit stops into consideration as part of the design process. PACE bus pull outs should be coordinated with the agency's plans for the area and be examined as part of the traffic study review. PACE routes would lead to the existing or new Metra station. The existing Metra network covers 5 counties and brings travelers from the outer suburbs to the Chicago metro area. Crystal Lake is part of the Union Pacific Northwest line which travels from Harvard to Chicago.



	Supporting Actions	Success Indicators
10.2a	Create a unique and functional transportation network.	Adoption of a comprehensive access management plan. Completion of roadway connections. Increase in the construction of alternative designed roadways to accommodate natural features.
10.2b	Encourage the construction of alternative modes of transportation.	Increase in the installation of bicycle and multi-use paths. Increase in the number of feet of sidewalk installed. Construction of improvements to the Metra, PACE or future mass transit provider's network.

Exhibit F


Northwest Sub-Area Transportation
Water Bodies
Rail Line
Bike Trails
Roadways
Future Roadways
City Limits
Northwest Sub-Area Boundary

Northwest Sub-Area Goals, Actions and Indicators

10.3 Utilities



Goal:

Utility lines for water, sewer and possibly storm sewer to be extended throughout the area to allow for high-quality controlled growth.

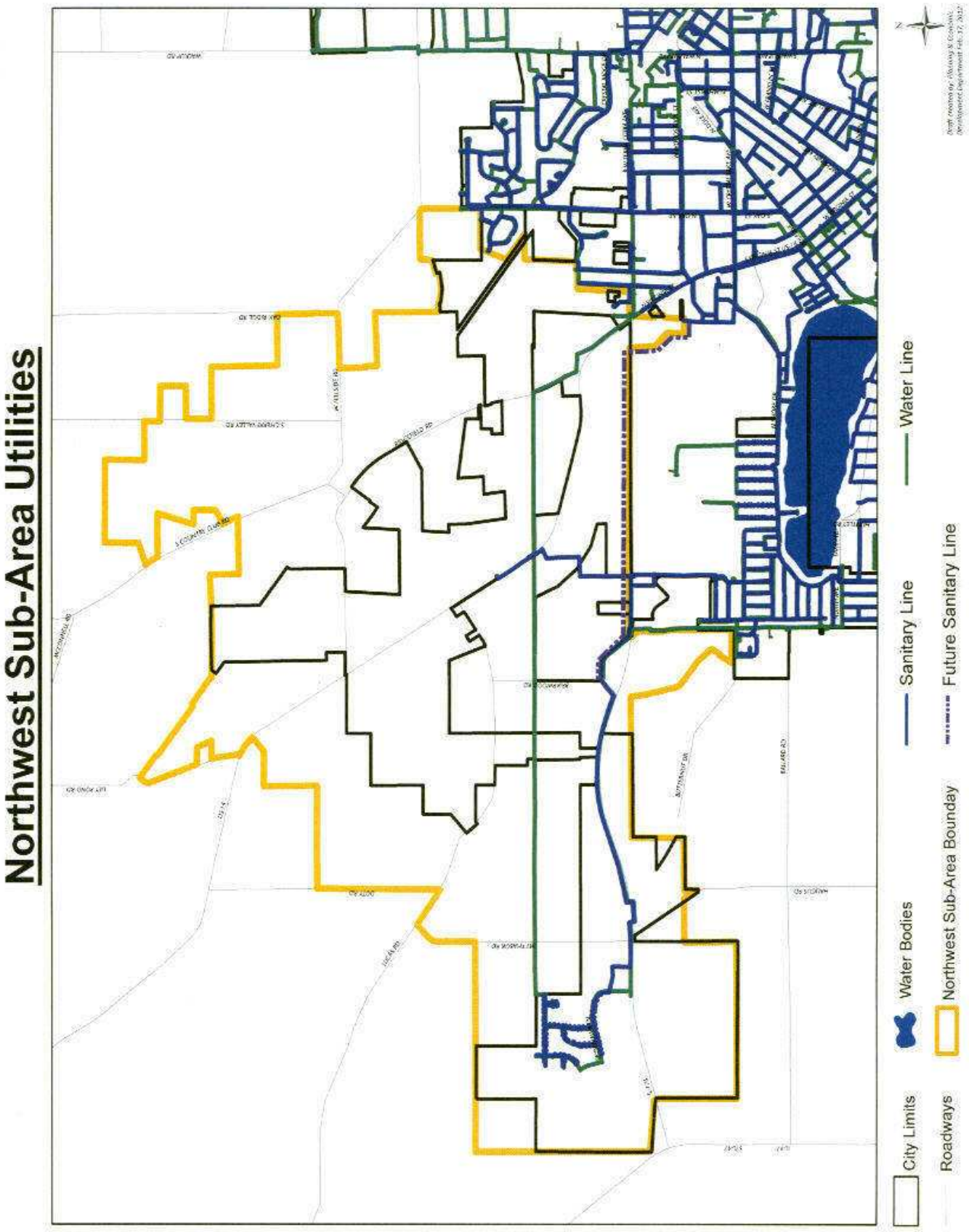
City water and sewer utilities are currently not available to the majority of this sub-area. Much of the existing residential development utilizes private well and septic systems. However, much of the existing residential development is within the Crystal Lake watershed area; well and septic systems are discouraged within the watershed. The City has prepared a master plan for the extension of public utility services into this area. The Plan, as illustrated on Exhibit I, depicts the proposed trunk line and lift station location. The extension of utilities in this area is critical for well-planned responsible development. The utility extension will be funded by private developers and land owners, but constructed under the direct control of the City.

The sanitary sewer trunk line has been located in the most practical spot to acquire easements and to allow the maximum amount of gravity service lines. Individual main and service lines will need to be proposed when each development plan comes forth. These main and service lines will be reviewed to ensure they do not conflict with any natural features, green space connections or other elements of this sub-area plan.

There is an existing 16-inch water main loop along the Commonwealth Edison right-of-way from south Ridgefield Road to the Bryn Mawr development, which can be extended along with a future roadway network.

	Supporting Actions	Success Indicators
10.3a	Require utility line extensions to be complementary with other elements of this section of the Comprehensive Plan.	The construction of utility projects which avoid disturbance to or enhance the natural system of any existing natural features. The approval of developments with a complete utility construction and management plan.
10.3b	Support alternative utility projects.	The increase in the construction of natural stormwater systems. The use of construction techniques that prevent shallow ground water from being conveyed out of the watershed. Research regarding a package treatment plant for this area.

Exhibit G


Northwest Sub-Area Utilities
Water Line
Sanitary Line
Future Sanitary Line
Water Bodies
Northwest Sub-Area Boundary
City Limits
Roadways

Northwest Sub-Area Goals, Actions and Indicators

10.4 Recreation





Crystal Lake Park District.

Goal:

Active and passive recreational opportunities and facilities shall be pursued by public and private entities to provide areas or connections to areas for the enjoyment of all residents and visitors.

The City, along with the Crystal Lake Park District, values recreation opportunities and looks for ways to privately or publicly maintain and increase these features. The establishment of recreation amenities provides benefits for all residents and visitors of the City. A variety of recreation amenities are needed depending on the environment and the users. City staff has reviewed the draft Master Plan being prepared by the Crystal Lake Park District and incorporated their proposed park and trail locations. There are generally two categories of recreation amenities, active and passive. These types of amenities should be incorporated into all new subdivision plans.

Active Recreational Amenities

Active recreation relates to amenities that encourage activity such as play equipment, sport courts, bike paths and ball fields. Active recreation is extremely beneficial because of the nationwide obesity problem and because it helps promote community and neighborhood gathering. Active recreation amenities will be required throughout subdivisions, along roadways or areas with good accessibility, and regionally located per Park District requirements. Locations of active recreation areas are illustrated on Exhibit H. These are parks, lakes and bike paths.

Passive Recreation Amenities

Passive recreation relates to amenities which allow an individual pace or use of an area, for example, gardens, walking paths, picnic area, or similar. Passive recreation allows the user to take ad-

vantage of the amenity but does not require any type of strenuous activity. Interjections of passive recreation along side active recreation amenities provide a good mix for all users and allow many people with health problems or limited mobility to still experience some level of recreational use and health benefits. Passive amenities are appropriate in areas of natural protection, limited developmental possibility, or which connect or adjoin active recreational areas. Locations of possible passive recreation sites are shown on Exhibit H. These are trails along stream banks and field tiles.

Development Plans

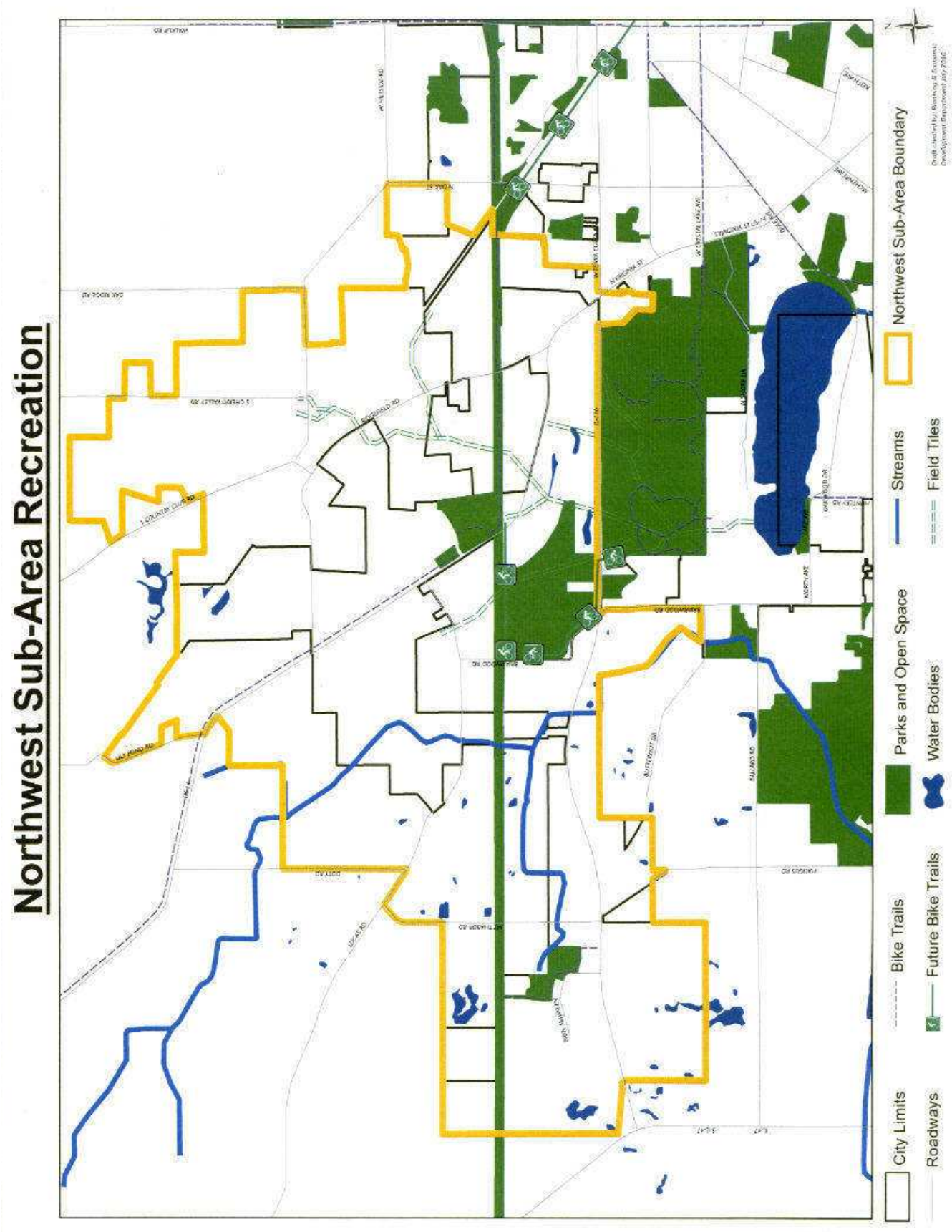
All development plans for subdivisions should include recreation amenities. New active and passive amenities should be planned and constructed by the property owner/developers of neighborhood areas. If any amenities exist outside, but adjacent to the subdivision, the subdivision developer should connect, enhance or expand these amenities.

Recreation Amenities

All proposed amenities will be of quality construction and meet or exceed the functional needs of the users. The installation of new amenities shall be coordinated with one of the four government entities; Crystal Lake Park District, City of Crystal Lake, McHenry County, or the MCCD.

	Supporting Actions	Success Indicators
10.4a	New housing developments to provide recreational amenities for the internal residents and contribute to amenities which will benefit the City as a whole.	Increase in the construction of recreation amenities in the sub-area. Increase in development projects that include park and open space areas.
10.4b	Developers should work with the Crystal Lake Park District to implement master plan amenities.	The number of properties donated annually. Increase in the construction of park space or payment of developer donations.
10.4c	Encourage the incorporation of recreation amenities that take advantage of the existing natural environment.	The annual number of park space constructed which provides links between natural features. The number of non-buildable areas like floodplains, wetlands, etc. used for passive recreation amenities.

Exhibit H


Northwest Sub-Area Recreation
Northwest Sub-Area Boundary
Streams
Field Tiles
Parks and Open Space
Water Bodies
Bike Trails
Future Bike Trails
City Limits
Roadways

Northwest Sub-Area Goals, Actions and Indicators

10.5 Smart Growth



Maple Lawn Dairy Farm. maplelawndairyfarm.weebly.com



hillsborough-nj.org



Goal:

Development and redevelopment of property while incorporating innovative design techniques to promote environmental, fiscal and economic smart grown.

Smart growth is a term used today to describe design techniques which lessen sprawl development and promote environmentally, fiscally, and economically **smart** development involving innovative land-use planning techniques. Key components to smart growth are: a range of housing opportunities; walkable neighborhoods; a mix of land uses; distinctive, attractive communities with a strong sense of place; and the preservation of open space, natural areas and critical environmental areas. Combining all these components requires high quality innovative design plans. To encourage innovative design, this plan suggests several methods of development; environment preservation, redevelopment and reuse of old buildings and sites, cluster development, transfer of development rights, and transit oriented plans. The design of all development shall be compatible with existing site features and protect natural features (mature trees, wooded areas, water courses, scenic views, ponds, flood plain areas, historical land markers, etc.) which if preserved would add to the attractiveness and value of the sub-area, neighborhood or City and enhance the quality of life.

Environment Preservation

Preserving the environment requires protection of natural features, retaining areas of undeveloped green space and protecting agricultural uses while allowing for compatible development. A survey conducted by McHenry County in preparation for their proposed 2020 Plan contained a synopsis of interviews conducted with county residents which found that traffic congestion, loss of rural character and stress on school systems were the three biggest resident concerns. Transportation should be planned with a clear hierarchy of streets to complete the network and handle traffic volumes as explained earlier in the transportation section. The loss of rural character and the stress on the school systems are primarily caused by the conversion of farmland and undeveloped green space into housing subdivisions. Typical subdivisions promote sprawl and total loss of environment. The natural features as identified on Exhibit C are an exceptional natural legacy that must be protected, because if lost, will never be able to be replaced. MCCD has identified 150 natural areas in

the County, 10 of which are within this sub-area. The existing natural features of the area range from wetlands, to prairie grass, to tree groves, to undisturbed areas. This section provides examples of how development, natural features, green space and agriculture can all co-exist in new development. Exhibit I depicts the buffer areas around natural features, undeveloped green space corridors, soils appropriate for organic agricultural use, and flood prone areas; in turn, leaving appropriate areas for development to occur. Any development plans submitted shall be accompanied by a soils map which shows the soil type as determined by actual soil borings, a survey of the existing topography of the site, and a survey of the natural environment including: depressional areas, ponds, wetlands, tree groves, MCNAI sites, waterways, prairies, and existing agricultural fields.

Redevelopment and Reuse

The redevelopment and reuse of old buildings and sites encourages infill development rather than sprawl. Reuse of old buildings may simply just be a new user moving in, but it may also be a conversion of an industrial or office building to a residential use. The reuse of a building saves on building supplies and labor costs which promotes environmentally and economically fiscal development. The reuse of sites allows for removal of older non-environmentally friendly buildings and the construction of a new facility, but in close distance to utilities and other infrastructure eliminating sprawl. Development (includes residential, non-residential, transportation and all related utilities) should be evaluated to ensure it is compatible with the surrounding environment and does not create a detrimental influence over the land. Growth and development should be encouraged near existing activity centers to relieve pressure to sprawl and convert agricultural land. Reuse of buildings and sites can also occur in the Ridgefield area. The existing industrial users could relocate leaving empty building or choose to upgrade their sites. The City would encourage redevelopment or reuse throughout this area as the preferred method of development. All development should work to minimize its impact on the natural environment; several methods are suggested in the goals at the end of this section.

Cluster Development

Undeveloped green space are areas which are currently not developed with houses or businesses and are not used for agricultural purposes. The western area of the sub-area is currently farmland, but contains large parcels zoned for 1/2 acre to 5 acre lots. As was stated earlier, large lot development would not create an ideal situation for preservation of undeveloped green space and the many natural features in this area. This sub-area plan establishes guidelines for keeping some of this area as permanent undeveloped green space. Increasing density near existing urban areas and protecting green space is ideal. The preservation of this undeveloped green space enhances the rural lifestyle and protects other environmental features including ground water. Cluster development would be an appropriate development technique in this sub-area. Cluster development can be applicable to both residential and business development. Residential cluster development is the grouping of the residential structures on a portion of the property reserving a significant portion of the property as green space. Residential cluster development is a way of permanently protecting green space, rural character and the environment while providing high-quality housing and allowing property owners the ability to develop their property. Business cluster development is based on the same principles and allows for the grouping of like businesses in a campus type environ-

ment while preserving a significant portion of the site as green space. Business clustering also lends itself to alternative means of transportation by allowing for more bicycle parking facilities or a mass transit stop. The Unified Development Ordinance (UDO) will allow for cluster development practices through the Planned Unit Development process. Cluster development shall be utilized on properties within the Watershed and where the property contains natural features.

Transfer of Development Rights

Transfer of development rights (TDR) refers to the transfer of potential development ability of one site to another property. TDR is appropriate when the transferring property is within the agricultural overlay or contains natural features. The donating property is then required to remain green space or agricultural land and the accepting site has the ability to increase its density. Permanently preserving privately owned productive agricultural land ensures a stable land base for the future agricultural industry. Agriculture is one of the largest land uses in McHenry County as it has some of the best soils for agriculture use in Northern Illinois. Exhibit I depicts Farmland Preservation areas where high quality agriculture soils are located and where continued agriculture production is likely and encouraged. These areas should be considered for a possible Agriculture Overlay which would designate them as being reserved for agricultural development, specifically organic farms. The average size of an organic farm within the United States is 27 acres in size, which is appropriately sized for several locations in this sub area. The agricultural uses in this area, as well as within the County, serve to enhance the rural lifestyle of the area and generate significant positive economic benefits. In order to preserve agricultural uses, this section suggests that development be focused around existing activity centers and buffers be established between agriculture and development uses. In other existing Transfer of Development Rights (TDR) programs across the country, it is found that farmers who sell their development rights reinvest the capital back into their farm operations, eliminate debt or use the income to acquire more land and expand their existing agriculture operations. Appropriate receiving areas for the transferred development must contain existing infrastructure and be located near existing activity centers. Exhibit J illustrates the appropriate donating and accepting areas. An agreement between all property owners involved shall be created, signed and recorded upon all involved properties. The UDO will allow for TDR under the Planned Unit Development process. Property owners can also put a conservation easement on the property through the McHenry County ACE program. Either program will benefit the area by allocating appropriate areas for development including higher density, cluster and mixed use development as well as preserving natural areas and agriculture uses.

Transit Oriented District

A transit oriented district (TOD) is an overlay placed on property surrounding a transit facility to allow for a mix of both residential and business uses. This planning technique could be used if a transit facility is located near the Ridgefield area. The TOD would allow for higher density residential mixed with business uses to create a mini town center around a transit facility. Higher density residential would increase ridership potential and promote environmentally friendly design by encouraging the residents to utilize transit options rather than their personal vehicles. TODs provide an 18% reduction in auto trips, 12% less vehicle miles traveled per trip during morning rush hours, 18%-28% reduction on roadway network needs, and improves air quality, lower develop-

ment costs, greater pedestrian safety and more access to jobs for lower income workers*. These are some worthwhile benefits to implementing a TOD.

* (source: Federal Transit Administration, Building Livable Communities with Transit, 1999, p.3)

Conservation Design

All of these techniques can be combined into one approach labeled Conservation Design. This smart growth technique is the culmination of many processes to help cities grow in ways that consume less land and strike a balance between preservation and growth. Growth and development are inevitable, but it can be done in a way that improves the environment. Conservation design has four primary steps to allow for the combination of the natural features, the working landscape and the built environment.

Step 1 is to identify the natural features and resources, topography and drainage patterns.

Step 2 is designing the development to work with these identified elements. The site should be laid out to take advantage of existing topography and limit grading or filling of the site. The buildings should be located to preserve natural features, reduce necessary impervious surfaces and take advantage of solar and wind power options. Landscape should be native plant materials which will grow better, use less water and work with the existing environment. Impervious surfaces should be limited by requiring shorter driveways, shared access points and parking facilities, minimum number of parking spaces, and reduced roadway quantities and widths. Stormwater control will require the use of BMPs including swales, infiltration basins, vegetated strips, rain gardens and bio-retention areas.

Step 3 is the review of the plan including the "treatment train." The plan should be evaluated to make sure it has taken every opportunity to work with the environment. Also the treatment train, which is the combination of many BMPs to create an efficient treatment system, will be evaluated. Watershed requirements are explained in the City's Watershed Stormwater Management Design Manual.

Step 4 is the maintenance and management plan. If the design and development are approved, most likely large areas of green space will be preserved and the maintenance plan details who and how these areas will be preserved in perpetuity. The plan will identify what features are on the property, i.e. natural protected areas, park area, stormwater facilities, etc. and then what is the most appropriate method to protect them including what group would be most appropriate to oversee the maintenance. For some protected natural areas, land conservation groups such as the MCCD may be the most appropriate group, whereas stormwater facilities could be appropriately maintained by a homeowners association.

Conservation design is the preferred development methodology, especially in this area due to its unique features. It is proven that conservation design saves construction costs by requiring less roadways, utilities and grading work. The City has established a Conservation Overlay District for this area, which requires specific goals to be met.

	Supporting Actions	Success Indicators
10.5a	Development plans shall include the protection, preservation, enhancement and expansion of natural features.	The increase in the number of development plans submitted that indicate natural features to be preserved. The number of tree groves protected or enhanced annually. The establishment of appropriate buffers, including 100 feet from natural features and 50 feet from drain tiles, as illustrated on development plans. Use of green space as a buffer or corridor link between natural features.
10.5b	Encourage the reuse and redevelopment of existing buildings or sites.	The increase in the number of brownfield sites that are redeveloped.
10.5c	Allow for cluster designed subdivision and business site development.	Increase in the approval of PUDs for cluster development. The reduction of impervious surfaces associated with a development. (based on an average from other non-conservation developments and UDO permitted impervious surface limits). Increase in open space and natural features illustrated in developments.
10.5d	Seek to establish a Transfer of Development Rights (TDR) program to protect agricultural land, hydric soils and other natural features.	The establishment of a Transfer of Development Rights program. The approval of density bonuses for projects which have purchased development rights through a TDR.
10.5e	Explore the feasibility of Transit-Oriented District (TOD) around the Ridgefield Corridor.	The construction of a transit facility in this area.
10.5f	Conservation design techniques should be followed for development within this area.	The number of projects submitted that meet the goals detailed in the UDO. The number of conservation subdivisions approved.

The northwest sub-area is a unique area that contains 17 specifically identified natural resources scattered around existing development, hydric soils and farmed agriculture land. This largely underdeveloped area will develop according to the demand for new housing and services in this area. The extension of utility services to serve this area will likely be the trigger that starts this development boom. This section of the Comprehensive Plan allows the City to properly plan for and require smart growth. A significant portion of this sub-area is within Crystal Lake's Watershed. This along with the other natural features in the area will require conscientious development planning and construction. While it can be difficult to reconcile sustainability with traditional sprawling developments, it is possible to create communities that enable people to live, work and play in harmony with nature and restore and preserve the natural environment.

Exhibit I

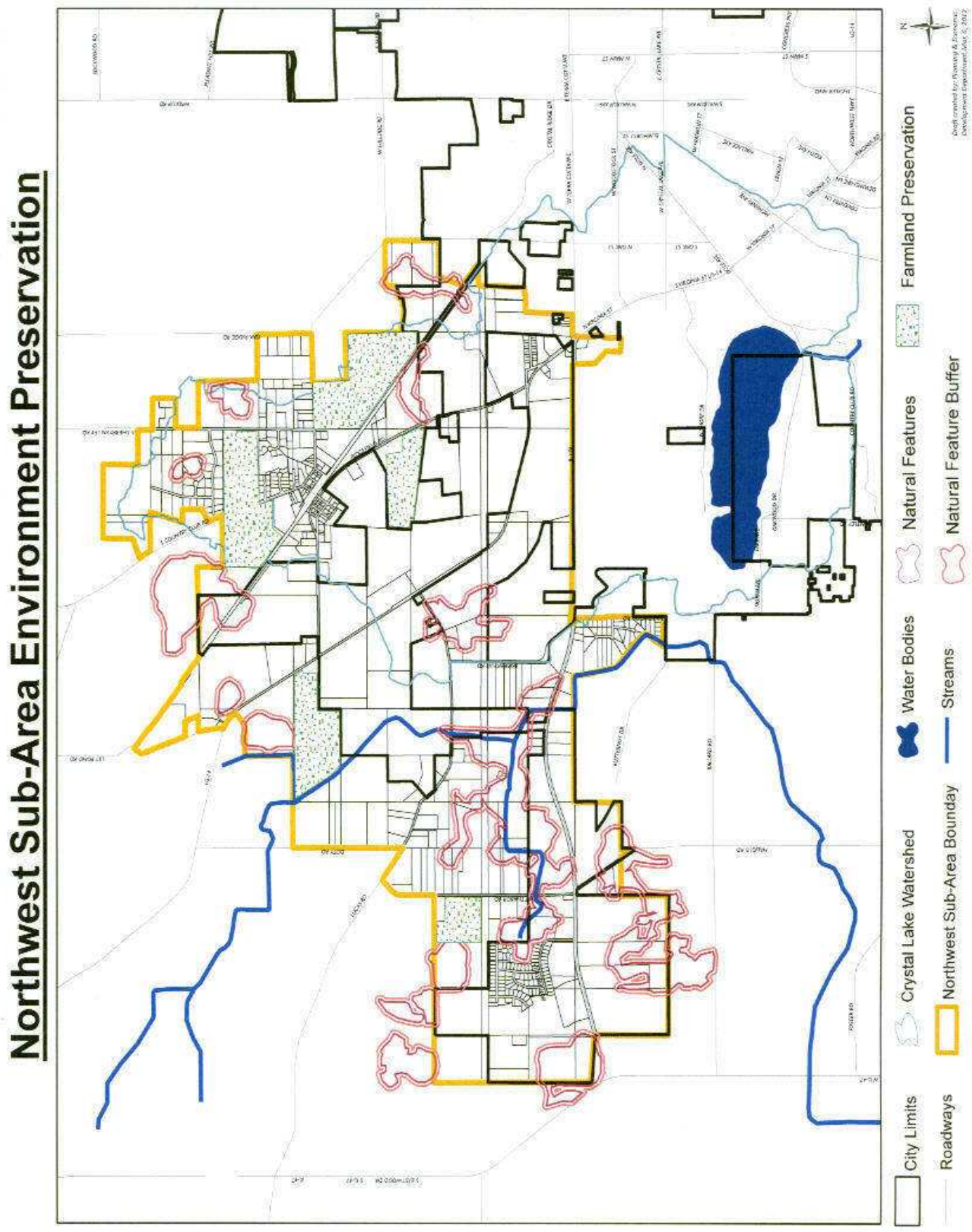
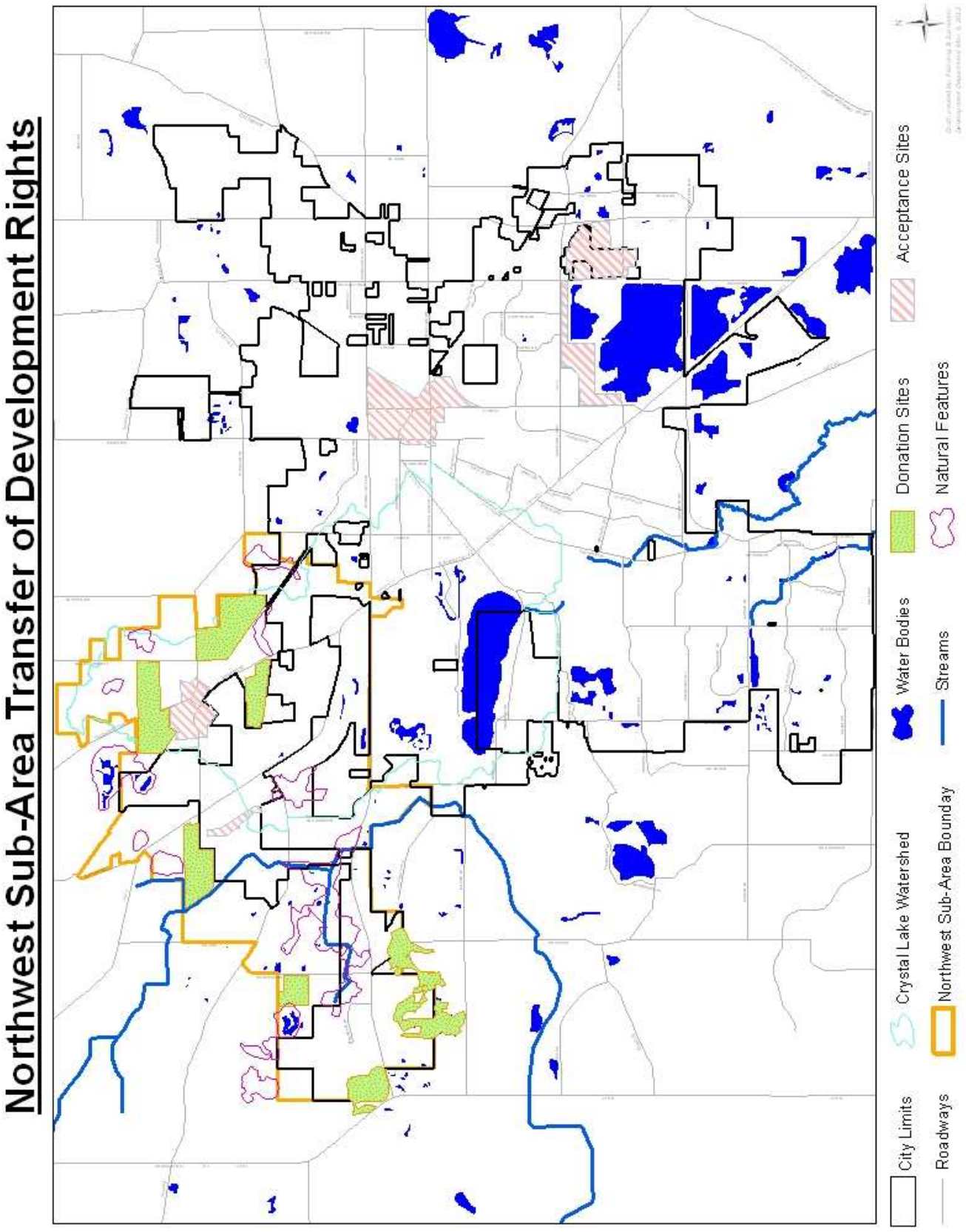

Northwest Sub-Area Environment Preservation
Farmland Preservation
Natural Features
Natural Feature Buffer
Water Bodies
Streams
Crystal Lake Watershed
Northwest Sub-Area Boundary
City Limits
Roadways

Exhibit J


Northwest Sub-Area Transfer of Development Rights
Acceptance Sites
Donation Sites
Natural Features
Water Bodies
Streams
Crystal Lake Watershed
Northwest Sub-Area Boundary
City Limits
Roadways



Chapter eleven

Green Infrastructure

Introduction and Purpose

Green Infrastructure is one element within the overall Comprehensive Land Use Plan. Green infrastructure can be defined in two primary ways. The term can be used to identify a greener, more environmentally sustainable version of typical gray infrastructure; for example, permeable pavement for parking lots or roadways or a natural bio-swale versus a drainage pipe. In this context, green infrastructure describes products, technologies, and practices that use natural systems that mimic natural processes—to enhance overall environmental quality and provide utility services. In addition to effectively retaining and infiltrating rainfall, these technologies can also filter air pollutants, reduce energy demands, mitigate urban heat islands, and sequester carbon.

Green infrastructure can also be the identification, protection and interconnection of open space, including both natural and human-altered landscapes. The Conservation Fund, an environmental non-profit with a dual charter to pursue both economic development and environmental preservation, defines green infrastructure as "strategically planned and managed networks of natural lands, working landscapes and other open spaces that conserve ecosystem values and functions and provide associated benefits to human populations." (Benedict, Mark, and Edward McMahon. Green Infrastructure Linking Landscapes and Communities. Washington DC, Island Press, 2006). The foundation of green infrastructure networks is the natural elements—woodlands, wetlands, rivers, grasslands, agricultural lands, trails, recreational area and cultural and historic sites—that work together as a whole to sustain ecological values and functions.

Both of these definitions are necessary to understand the complete green infrastructure vision. It is important to be able to identify the green resources located within the City and how they work together to create a system. Elements within Crystal Lake can be coordinated with the surrounding municipalities to create a regional system.

Implementing Green Infrastructure in Crystal Lake

The City has adopted the Green Infrastructure Vision (GIV), which provides the framework for this Comprehensive Plan element. The GIV provides a background on how Crystal Lake fits into the regional context of green infrastructure. Several organizations in the Chicago Metropolitan Area including CMAP, Chicago Wilderness , McHenry County and others have created regional green infrastructure plans.

The City has incorporated several principles of green planning through a variety of adopted plans, manuals and ordinances.

* In 2007 the City adopted the Crystal Lake Watershed Design Manual that includes recommendations and design criteria for best management practices to help preserve the water quality and hydrology of its namesake lake.
* In 2008 the City adopted the Northwest Sub-Area Plan that recommends various sustainable development strategies for potential growth areas in its northwest area. In particular, the plan identifies techniques such as cluster development, stream buffers, transit oriented development, and transfer of development rights. This plan is now incorporated within this 2030 Comprehensive Land Use Plan.
* In 2009, the City adopted the Unified Development Ordinance, which introduced requirements for conservation development on properties that meet certain environmental triggers. The Ordinance provides alternative standards for roadway and subdivision design that utilize green infrastructure principles.

While these are important accomplishments, additional opportunities exist to strengthen the policy and technical basis for green infrastructure in Crystal Lake. With that goal in mind, the City will utilize this section and the GIV to create and construct new projects.

Mapping a Green Infrastructure Network in Crystal Lake

Crystal Lake has a variety of natural features that are important to its character and livability. An important first step is to systematically catalog and map data and information about these features. The maps used by the City to create a green infrastructure vision were created by other organizations. The features included in the green infrastructure map are:

* Wetlands (including high quality ADID sites)
* Hydric soils (i.e., former wetlands that were drained)
* Lakes, streams, and other bodies of water
* Oak woodlands
* Pre-settlement vegetation
* McHenry County Natural Area (MCNAI) sites
* Sensitive aquifer recharge areas (SARA)
* Major field tiles
* Chicago Wilderness GIV resource protection areas
* Watershed boundaries
* McHenry County Conservation District holdings
* Park District and City open space
* Major bike paths

Green Infrastructure Elements

It is important that green infrastructure planning and protection incorporate both traditional open space protection and acquisition strategies as well as complementary approaches such as conservation development and conservation easements applicable to private land. The Comprehensive Plan element lists the attributes for each of these resource areas and specific supporting actions and success indicators.

With this direction, a hierarchy of green infrastructure protection and restoration opportunities was identified in the Crystal Lake planning area. These included:

* Highly Important Resource Areas: These are major landscape-scale areas that are resource rich and/or critical to the ecological and environmental health and economic vitality of the City. These areas also help to define Crystal Lake's unique sense of place and community image.

* Secondary Resource Areas: These are areas within or between the major elements or resources that don't create a sense of place but are still important. Secondary elements provide links between the major elements to form a more complete green infrastructure vision.

* Neighborhood and Site Strategies: Neighborhood and Site Strategies are programs and actions that can be undertaken at a local scale for individual property owners that enable the goals and opportunities of the major elements to be fully realized.

The following are the categories of the resource areas and site strategies with their listed elements.

Highly Important Resource Areas

11.1 Crystal Lake Watershed
11.2 Upper Kishwaukee River Corridor
11.3 Sleepy Hollow Creek and Silver Creek Watersheds
11.4 Northeast Fen and Oak Stands
11.5 Three Oaks Recreational Area
11.6 Crystal Creek

Secondary Resource Areas

11.7 Wood's Creek
11.8 Bike Path
11.9 Glacial Potholes
11.10 Active Farming
11.11 Hydric Soils

11.12 Neighborhood and Site Strategies

* Bio-Swales
* Rain Gardens
* Native Plantings
* Green Roofs
* Porous Pavement
* Water Conservation

Highly Important Resource Area Details, Actions and Indicators

11.1 Crystal Lake Watershed



Goal:

Preserve high quality and quantity water resources within the lake for natural aquatic ecosystems and recreation uses.

The health and vitality of Crystal Lake is largely dependent on the quality and quantity of water from its 3,200 acre watershed which lies primarily north of the lake. Water arrives in the lake via surface runoff, drainage from field tiles and Cove Pond, and primarily from shallow groundwater aquifers. The quality of this water, and the maintenance of healthy groundwater "baseflows," (versus surface stormwater runoff) are important for habitat and for recreation. Crystal Lake is maintained by both the Crystal Lake Park District and the Village of Lakewood as a main recreational destination in the area. The primary goal for the Crystal Lake Watershed is to ensure the natural aquatic ecosystems are preserved. This can be achieved primarily by best management practices that are incorporated into new site designs or retrofitted into existing neighborhoods and developments. This objective also would benefit by the protection and restoration of natural buffer strips around the margins of the lake and its tributary waterways.

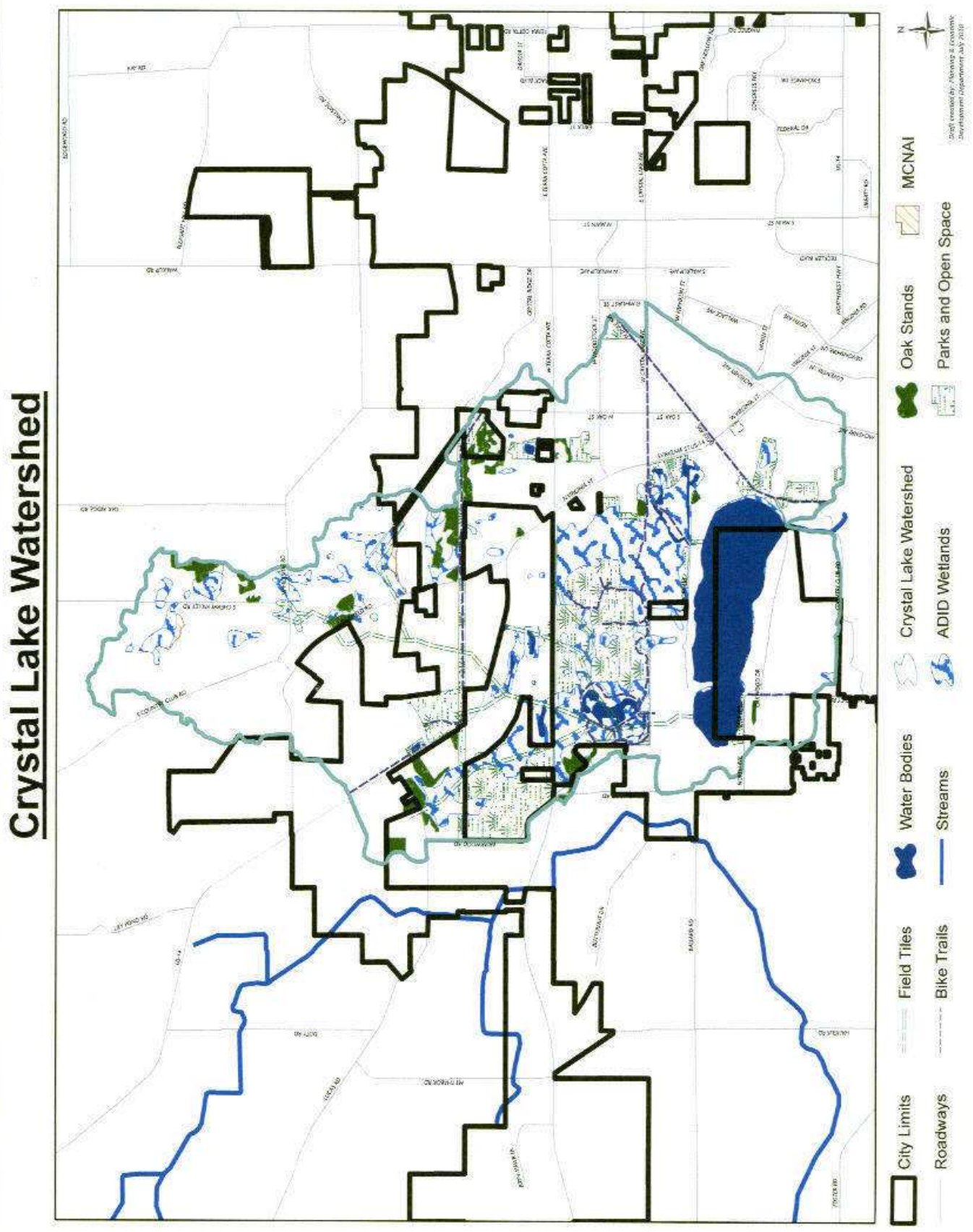
The Crystal Lake Park District and Village of Lakewood use the 1975 Crystal Lake Watershed Resources Management Study, commonly referred to as the Bauer Report. The Report is an analysis of the watershed, the area surrounding the lake and the plant and animal life within the lake. The lake was stocked with large-mouth bass, rock bass, white crappie, northern pike, war-mouth bass, yellow perch, pumpkinseed sunfish, black and yellow bullhead, white sucker, northern brook silver sides, blunt nose minnow, banded killifish, golden shiner and carp. The lake provides excellent habitat for both aquatic species and water fowl.



The Crystal Lake Watershed element has four main attributes; recreation, habitat, water resources and community character.

Crystal Lake Watershed	
Attribute	*Functions provided*
Recreation	Crystal Lake 230 acre lake for boating, swimming, fishing and events Lippold Park 310 acre park area, bike paths, disc golf, 24 ball fields, dog park, hiking, skate park, batting cages and fitness area. Bike Path Trails through Lippold Park to Route 14. Trail along ComEd utility lines from the Railroad line to McHenry County Community College.
Habitat	Crystal Lake Aquatic species (fish and plants) General birds, bats, insects, plants, and mammals. Lippold Park 60 acres of ponds, wetlands, open space and trees. ADID Wetlands Endangered or protected species, native species, general birds, fish, plants, microorganisms and mammals. Oak Stands Shelter and nesting sites for mammals and birds.
Water Resources	Crystal Lake Recreational water. Crystal Lake is one of the best examples of a clear water, sand bottom, groundwater-fed glacially formed lake in northeastern Illinois. BMPs within the watershed to keep the water clean Drain Tiles Dewaters north of the lake ADID Wetlands Water storage and infiltration – clean up the water. Watershed is a critical recharge zone for groundwater aquifers and crystal lake.
Community Character	Crystal Lake The City derives its name from the lake. The lake is an integral part of Crystal Lake's early existence with ice harvesting in the winter and recreation in the summer. Continued recreational importance today. Cardboard Cup Regatta Summer Camp Summer recreation

	Recommended Actions	Success Indicators
11.1a	Preserve the Crystal Lake Watershed.	Adoption of the Crystal Lake Watershed Storm Water Management Design Manual. Higher quality of water in the lake. Higher quantity of water in the lake.
11.1b	Establish zoning standards requiring the preservation of green infrastructure elements.	The establishment of the W Watershed zoning district. The number of projects developed within the Conservation zoning overlay. The number of projects built that adhere to the Northwest Sub-Area's goals and objectives for buffers and protection of these resources.
11.1c	Require development within the watershed to use logical links to piece together green infrastructure elements within their development designs.	Increase in conservation designed subdivisions. Number of commercial developments that use conservation techniques.
11.1d	Continue to aggressively implement the recommendations and requirements of the Crystal Lake Watershed Design Manual for all development and redevelopment.	The number of new developments with installed BMP's. Reports of Crystal Lake showing an increase in the water quality.
11.1e	Encourage existing residents and business owners around the periphery of the watershed to incorporate site strategies such as rain gardens, permeable paving, and natural landscaping to reduce contaminated stormwater flows entering the lakes.	The number of educational materials created. The number of privately installed BMP's.
11.1.	Identify and implement opportunities to retrofit existing landscapes and infrastructure to reduce and cleanse stormwater runoff throughout the watershed.	The number of restored drained wetlands and hydric soils areas. The amount of green infrastructure created—ex. Lineal miles of bio-swale verses lineal mile of storm sewer.


Crystal Lake Watershed
City Limits
Roadways
Field Tiles
Bike Trails
Water Bodies
Streams
Crystal Lake Watershed
ADID Wetlands
Oak Stands
Parks and Open Space
MCNAI

Highly Important Resource Area Details, Actions and Indicators

11.2 Upper Kishwaukee



CMAP, Upper Kishwaukee River Watershed Plan Technical Report, 2008

Goal:

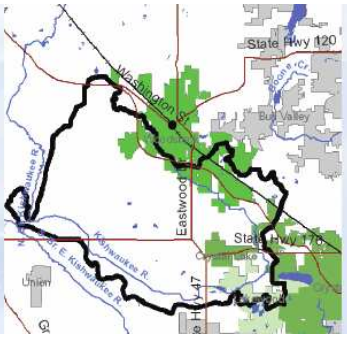
Restore a healthy aquatic community, expand preservation efforts and ensure the river remains a vital resource to the community.

The Upper Kishwaukee River flows 15 miles beginning from the headwaters at Route 14 to the intersection of Pleasant Valley and McCue Roads. Its watershed, which lies in the western and northwestern portion of the Crystal Lake planning area is 27 miles of primarily agricultural land. The Chicago Metropolitan Agency for Planning (CMAP) in conjunction with the Kishwaukee River Ecosystem Partnership (KREP) prepared the Upper Kishwaukee River Watershed Plan in 2008. The plan studies water quality and aquatic habitat problems related to wastewater treatment plant discharges, stormwater runoff and historical channelization. Historical records identified sensitive fish species such as the Iowa Darter and Blacknose Dace that once populated this area. In addition, the upper watershed is dotted with glacial potholes, wetlands, oak groves and savannas that offer great potential for restoration. The main goal for this watershed is to restore a healthy aquatic community and ensure the river remains a vital resource to the neighborhoods surrounding it. The CMAP drafted Upper Kishwaukee River Watershed Plan recommends expanded preservation of the creek corridor and wetlands, habitat restoration and the use of conservation design approaches for new development.

The Upper Kishwaukee River and watershed has three main green infrastructure attributes. Each of these attributes contributes to the river's ecological and the integration into the City's green infrastructure system.

Upper Kishwaukee	
Attribute	*Functions provided*
Habitat	Kishwaukee River branch Fish, mussels, amphibians, reptiles and birds Historical records identified sensitive fish species such as the Iowa Darter and Blacknose Dace Oak Stands Shelter and nesting sites for mammals and birds ADID Wetlands Endangered or protected species, native species, general birds, fish, plants, microorganisms and mammals.
Recreation	Kishwaukee River branch Fishing Canoe/kayak Bike Path Bike and multi-use trail – east west under the ComEd right-of-way
Water Resources	Kishwaukee River branch Natural water course filtering surface runoff Treatment plant discharge and recharge ADID Wetlands Water storage and infiltration – clean up the water. Watershed is a critical recharge zone for groundwater aquifers

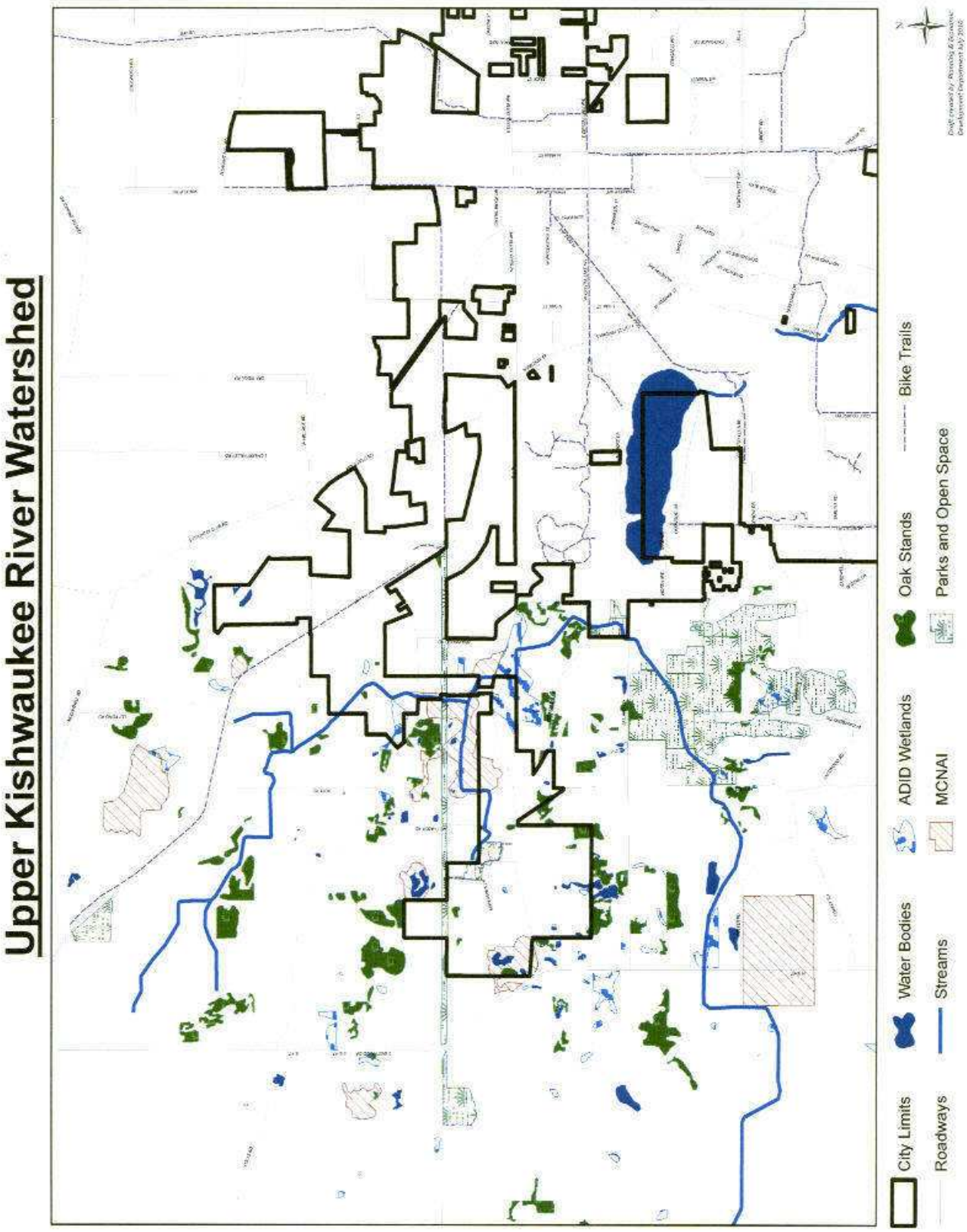






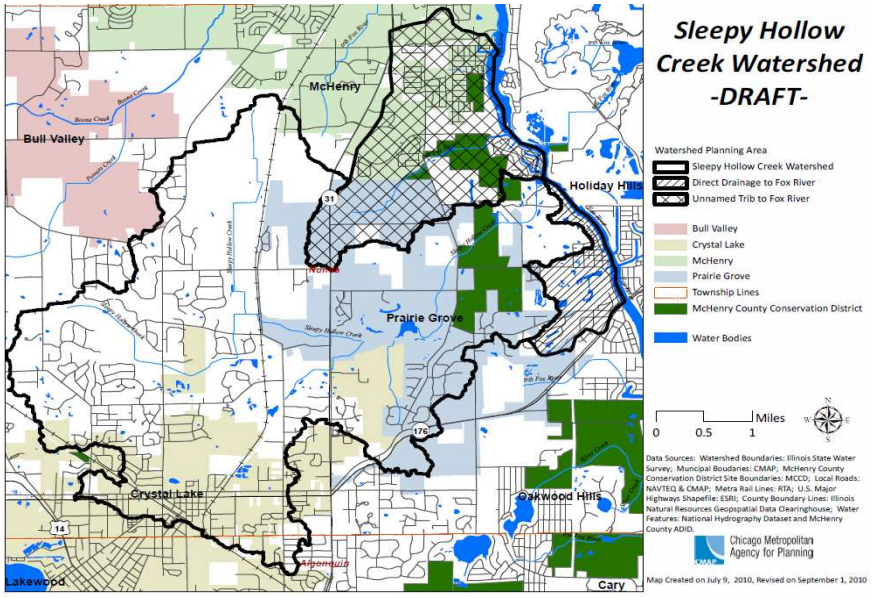
CMAP, Upper Kishwaukee River Watershed Plan Technical Report, 2008

	Recommended Actions	Success Indicators
11.2a	Work with the watershed planning community, adjacent organizations and municipalities to implement the Upper Kishwaukee River Watershed Plan to preserve and enhance this portion of the Kishwaukee.	Support of the Upper Kishwaukee River Watershed Plan by the City. The development of a project utilizing the recommendations within the plan.
11.2b	Implement the policies of the Northwest Sub-Area Plan.	Appropriate buffers from the River are maintained with new developments. The incorporation of the Conservation Overlay standards in new development. Long term stewardship of the River, buffers and open space is established. The recordation of HOA covenants which prohibit the use of phosphorous fertilizers.
11.2c	Implement stormwater BMPs that infiltrate and filter runoff via a runoff reduction hierarchy.	The water quality and hydrology of the creek and associated wetlands are improved. The number of agriculture lands that install BMP's. The number of industrial sites that install BMP's.
11.2d	Restore the habitat and ecosystems as identified in the Upper Kishwaukee River Watershed Plan.	The preservation of the river's riparian corridor from Lucas Road to Route 176. The meandering of the stream and restoration of the wetlands adjacent to Route 176 The clearing of buckthorn and other invasive species along the tributary north of Route 176 and Mt. Tabor Rd.
11.2e	Encourage recreational opportunities along the Kishwaukee River.	Increase in the number of areas accessible to the public for recreation.


Upper Kishwaukee River Watershed
City Limits
Roadways
Water Bodies
Streams
ADID Wetlands
MCNAI
Oak Stands
Parks and Open Space
Bike Trails

Highly Important Resource Area Details, Actions and Indicators

11.3 Sleepy Hollow and Silver Creek Watersheds



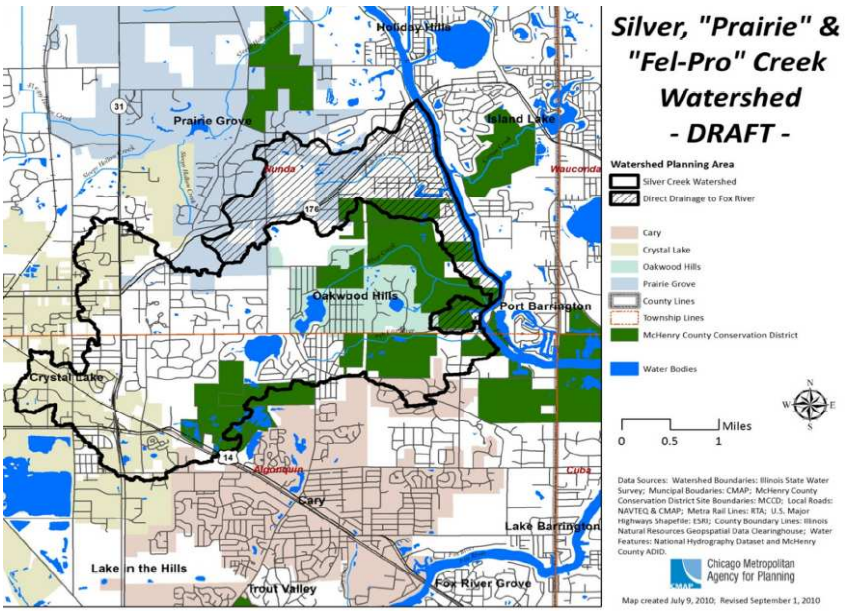
Goal:

Support the watershed plans including implementation of any proposed projects.

Sleepy Hollow Creek runs along the northeast side of the City limits and into the Village of Prairie Grove before entering the Fox River. It has a drainage area of approximately 19.86 square miles. Immediately to the south, Silver Creek flows westerly from Crystal Lake into Oakwood Hills before discharging to the Fox River. The watersheds of these two creeks, with a combined area of roughly 30 square miles, include the northern and eastern parts of the City, including much of the downtown area. CMAP has developed a joint watershed action plan to protect water quality, restore water body impairments and protect groundwater for these two creeks. This watershed plan is in review by the Illinois EPA. After IEPA approval, the plan will be presented to the municipalities for their support.

Protection of the creek corridor and maintaining good water quality and healthy baseflows in the watershed are vital for the health of these creeks. Although no study has been done on the impairment of these creeks, the portion of the Fox River in which they discharge is impaired, creating the need for this plan.

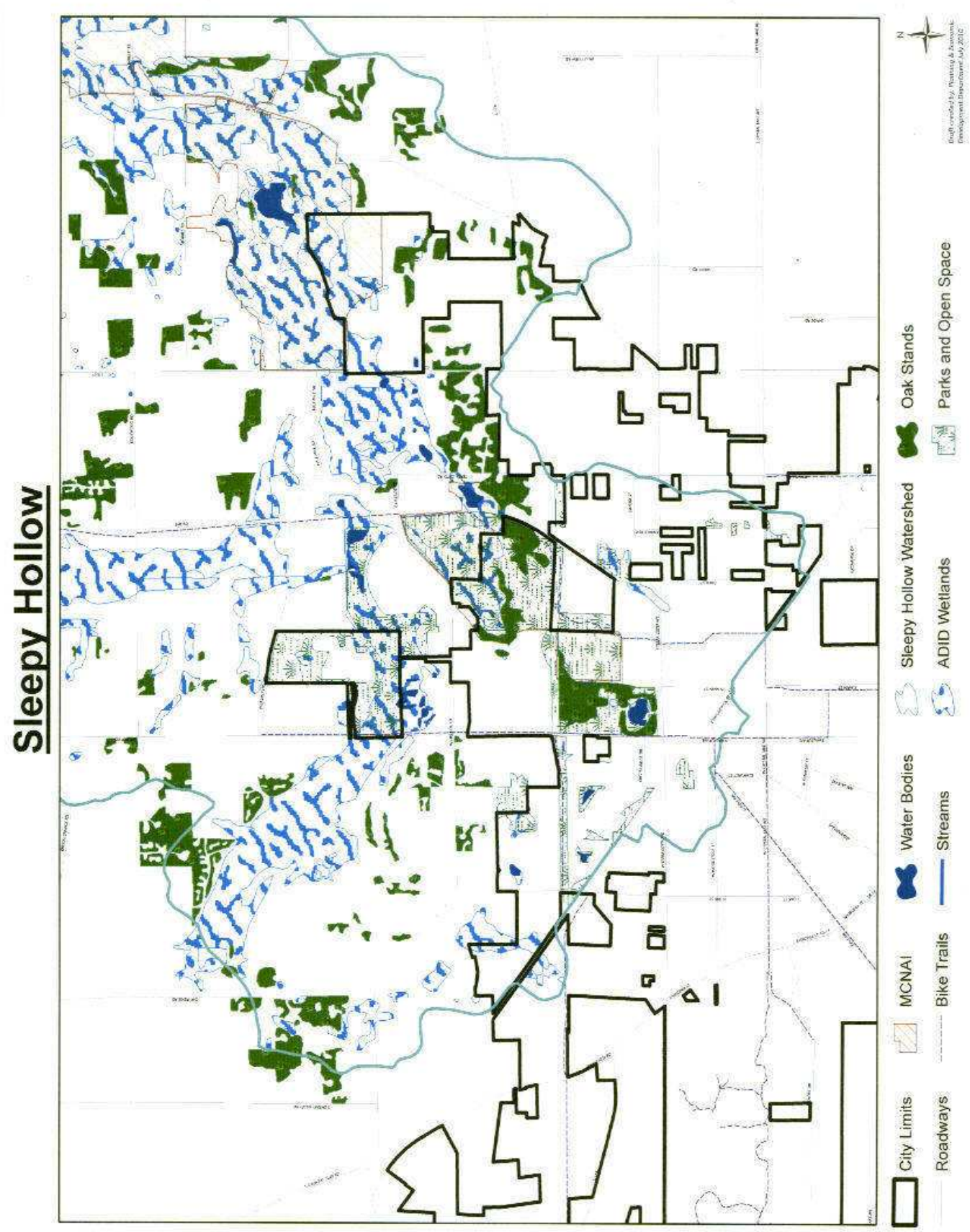
This comprehensive plan section points out the attributes for each creek.

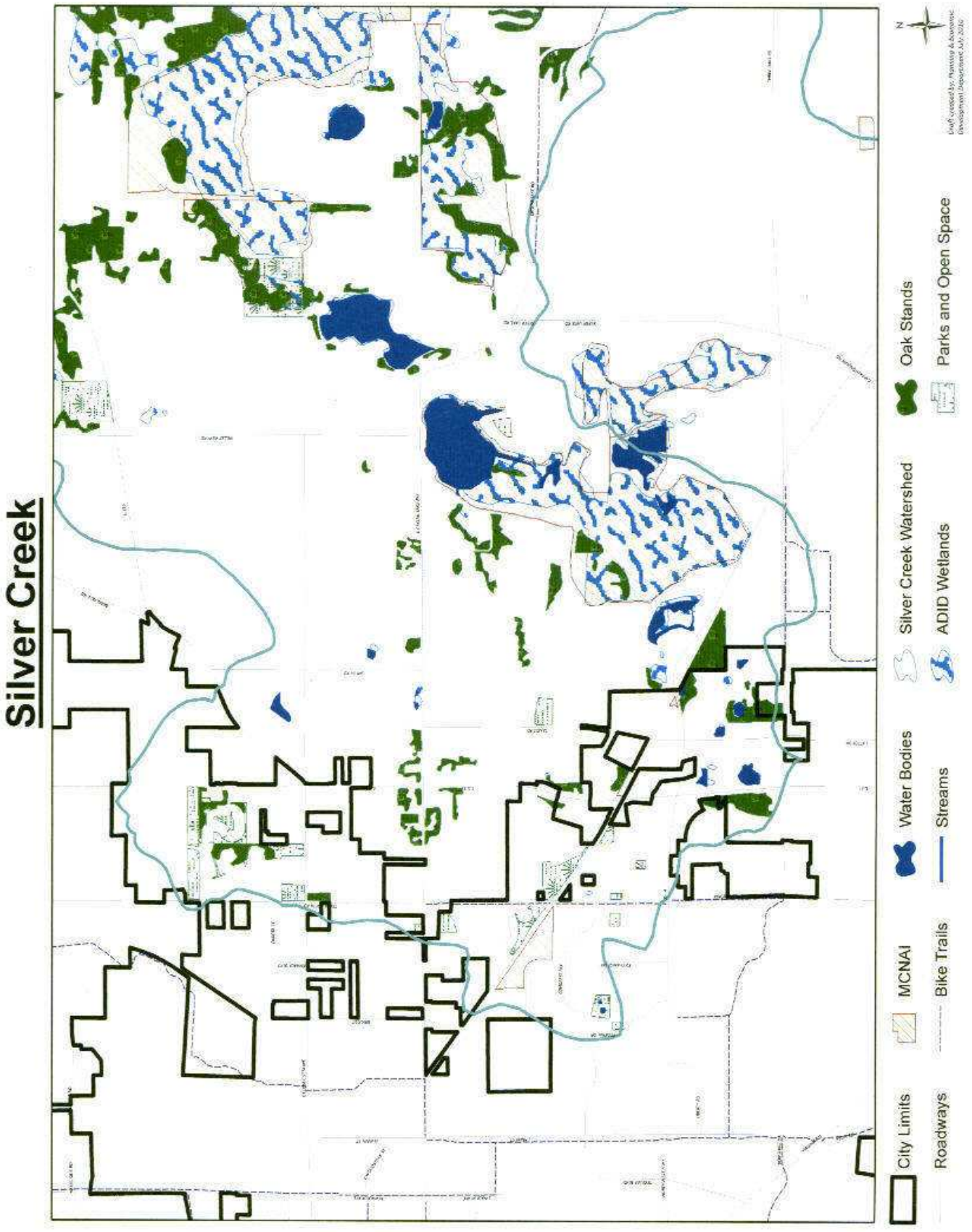


Sleepy Hollow Creek	
Attribute	*Functions provided*
Water Resources	Headwater, ground-fed stream ADID Wetlands Floodplain Squaw Creek
Recreation	Prairie Ridge Conservation Area Passive recreation Squaw Creek walking trail
Habitat	Prairie Ridge Conservation Area Oaks, ponds, prairie ADID Wetlands Oak Stands Headwater fish spawning and forage opportunities

Silver Creek	
Attribute	*Functions provided*
Water Resources	ADID Wetlands Floodplain Tributary to Fox River—drinking water
Recreation	MCCD Sites Fel-Pro Conservation Area Silver Creek Conservation Area The Hollows Conservation Area
Habitat	ADID Wetlands Oak Stands Aquatic life Conservation Areas

	Recommended Actions	Success Indicators
11.3a	Encourage neighborhood scale retrofits of BMPs to maintain/restore healthy groundwater flows.	Reduced use of phosphorous fertilizers. Cleaner water discharged from properties. Installation of bio-swales, rain gardens, green roofs and porous pavement. Increase in underground aquifer levels.
11.3b	Work with landowners, including the Park district and residents, to continue and expand ecological restoration of woods, savannas, and wetlands.	The removal of invasive species. Sleepy Hollow Creek's Natural hydrology restored. Silver Creek's Natural hydrology restored. Water quality and water quantity improved.
11.3c	Educate the property owners and general public of the importance of the watersheds.	The establishment of an active stewardship group founded for long term care of the area. Increased usage of the conservation areas.


Sleepy Hollow
City Limits
Roadways
MCNAI
Bike Trails
Water Bodies
Streams
Sleepy Hollow Watershed
ADID Wetlands
Oak Stands
Parks and Open Space


Silver Creek
City Limits
Roadways
MCNAI
Bike Trails
Water Bodies
Streams
Silver Creek Watershed
ADID Wetlands
Oak Stands
Parks and Open Space

Highly Important Resource Area Details, Actions and Indicators

11.4 Northeast Fen and Oak Stands



Crystal Lake Park District, www.crystallakeparks.org



Crystal Lake Park District, www.crystallakeparks.org

Goal:

Protection and enhancement of the natural features while allowing passive and active recreation experiences.

Along the northeastern border of the City from Veteran Acres Park to Barreville and Wright Roads is the Northeast Fen and Oak Stands element. This area is unique due to its rolling to hilly landscapes, stands of oak and hickory woods and savannas and rare fen type wetlands. This element contains; two City park sites, Veteran Acres and Sterne's Woods and Fen; a Nature Preserve, Wingate Prairie; and several wetlands. The area of this element, centered around the park sites, is identified in McHenry County's Natural Area Inventory. Sterne's Woods and Wingate Prairie is also identified as a dedicated Illinois Nature Preserve. Extending to the northeast from the protected lands are additional woods and wetlands, some of which are now occupied by low-density residential neighborhoods.

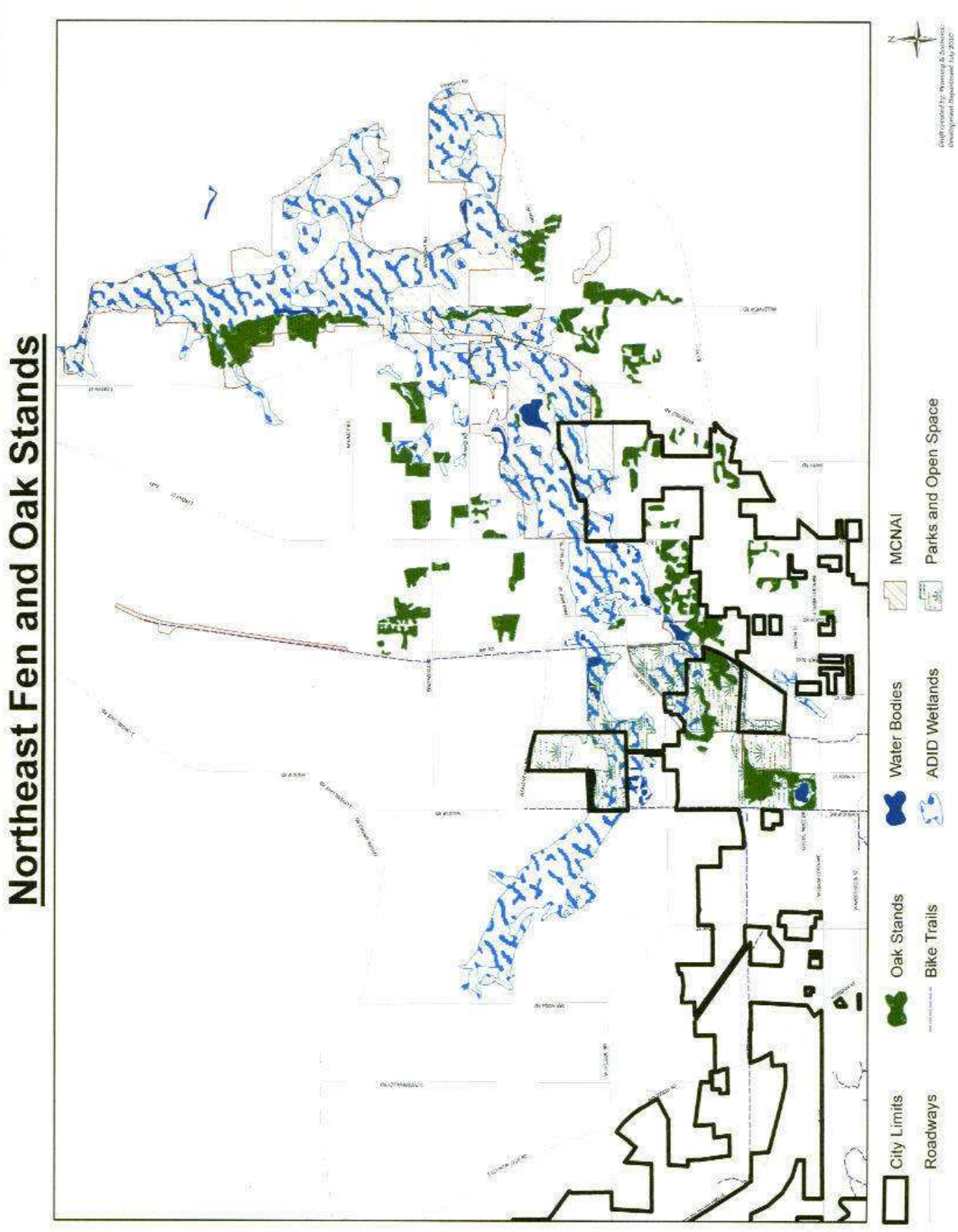
This element has both hard and soft boundaries. The hard boundaries are the specific identified features. The soft boundaries are the adjacent wetlands, tree groves and other open space. The non specifically identified features can be combined with the larger hard boundary features to create green corridors, increased habitat or recreation area or additional conservation property.

This resource area has three main attributes with the most observable being the recreational amenities.

Northeast Fen and Oaks Stands	
Attribute	*Functions provided*
Recreation	Veteran Acres Active recreation – picnic tables, playground, Nature Center, ball fields, cross-country skiing Wingate Prairie (39 acres Illinois Nature Preserve) walking trails and wooded areas. Stern's Woods (185 acres Nature Preserve) Wooded trails Cross county skiing Prairie Trail—bike path
Habitat	Wingate Prairie Plants, rare and endangered plant species Animals, mammals, reptiles, amphibians, birds Stern's Woods Stern's Fen ADID Wetlands Oak stands
Water Resources	ADID Wetlands Ponds Groundwater fed seeps and fen Critical recharge zone for ground water aquifers

	Recommended Actions	Success Indicators
11.4a	Promote, enhance and preserve the recreational opportunities.	The number of improvements made to facilities by preservation groups, such as the McHenry County Conservation District, Illinois Department of Natural Resources and the Crystal Lake Park District. Increase in the number of users at the recreation areas.
11.4b	Work with nearby residents and the general public to educate them on the resources in the area and practices that harm these resources.	The number of educational materials prepared about harmful practices such as phosphorous fertilizers and cold tar application driveway sealant. Ground water quality reports that show little impairment to water resources in the area.
11.4c	Use zoning to protect the valuable resources of the area.	The establishment of the Conservation Overlay District.
11.4d	Ensure development and related infrastructure does not disrupt the natural ecosystem of the area.	Conversion of gray infrastructure to green infrastructure.

Blank


Northeast Fen and Oak Stands
City Limits
Roadways
Oak Stands
Bike Trails
Water Bodies
ADID Wetlands
MCNAI
Parks and Open Space

Highly Important Resource Area Details, Actions and Indicators

11.5 Three Oaks Recreation Area



Goal:

Enhance the recreational features and experience while protecting the natural amenities.

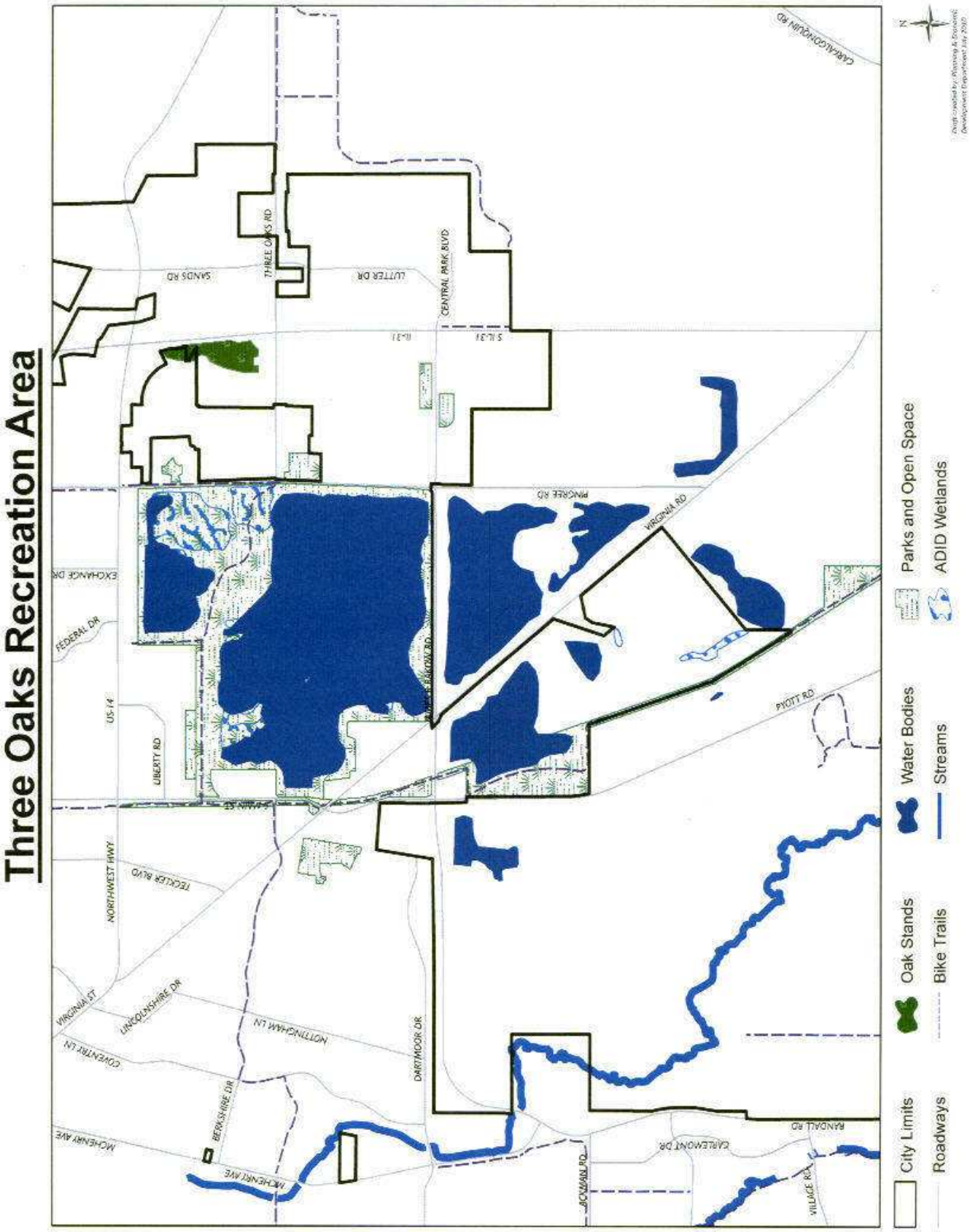
Three Oaks Recreation Area is the newest recreation destination within Crystal Lake. This 500+ acre site includes nearly 350 acres of high quality, groundwater fed lakes that were converted from gravel mines. The complex features a sand beach, spray park, restored natural landscapes and an internal trail system. From a biodiversity perspective, the site is well known by birders for attracting migrating songbirds and waterfowl. A diversity of fish and small mammals also make their homes within and around the lake. Three Oaks is connected to adjacent areas by the regional Prairie Trail and is bordered by a large gravel mining complex to the south. Three Oaks Recreation area contributes to the community character of Crystal Lake and is projected to become a regional destination.

The City's primary goal for this element is to enhance and increase the recreational opportunities. The City is also a good steward of the land and has restored and enhanced several of the natural areas within the park. Fish are stocked within the lake and are catch and release only. The park area is also home to a variety of other birds, mammals and aquatic life.

Three Oaks Recreational Area	
Attribute	*Functions provided*
Recreation	462 acres - Swimming, spray park, biking, hiking, boating, fishing. Connected to regional Prairie Trail
Community Character	Primary recreational area for City Attract tourist for economic development Commercial – adjacent and future onsite potential
Habitat	Fish, plants wildlife Habitat for migrating birds and waterfowl
Water Resources	Gravel bottom ground water-fed lakes Outstanding water clarity (one of the clearest in northeastern Illinois) Storm water runoff cleaning – BMPs
Economic Development	Revenue generated from development around the periphery. Business location because of City amenities.



	Recommended Actions	Success Indicators
11.5a	Create a recreational destination within Crystal Lake.	The construction and opening of Three Oaks Recreation Area.
11.5b	Preserve and restore shoreline and upland habitat areas within this area.	The retention of existing vegetation around the majority of the lake. Continued prohibition of motorized watercraft. The planting of native prairie, wetland and savanna plant species.
11.5c	Implement stormwater BMPs that infiltrate and filter runoff via a runoff reduction hierarchy for all new development and redevelopment around the periphery of the Three Oaks site.	The number of BMP's installed including permeable paving, filter strips, bio-swales, rain gardens and naturalized detention.
11.5d	Work with existing residents and business owners around the periphery of the site to incorporate rain gardens, permeable paving, and natural landscaping to reduce contaminated stormwater flows entering the lakes.	The number of educational materials created. The increase in rain garden, bio-swale and native planting installations.
11.5e	Promote the economic development benefits of Three Oaks Recreational Area	The preparation of a redevelopment plan for the surrounding properties. Creation of market materials highlighting redevelopment opportunities around Three Oaks Recreation Area.


Three Oaks Recreation Area
CARKALOGHOUN RD
SANDS RD
THREE OAKS RD
LUTTER DR
CENTRAL PARK BLVD
S IL-31
IL-31
PINCREE RD
VIRGINIA RD
EXCHANGE DR
FEDERAL DR
US-14
LIBERTY RD
PYOTT RD
TECKLER BLVD
NORTHWEST HWY
VIRGINIA ST
LINCOLNSHIRE DR
COVENTRY LN
NOTTINGHAM LN
DARTMOOR DR
BERKSHIRE DR
MCHENRY AVE
RANDALL RD
CARLEMONT DR
JACKSON RD
VILLAGE RD
N
Parks and Open Space
ADID Wetlands
Water Bodies
Streams
Oak Stands
Bike Trails
City Limits
Roadways

Highly Important Resource Area Details, Actions and Indicators

11.6 Crystal Creek



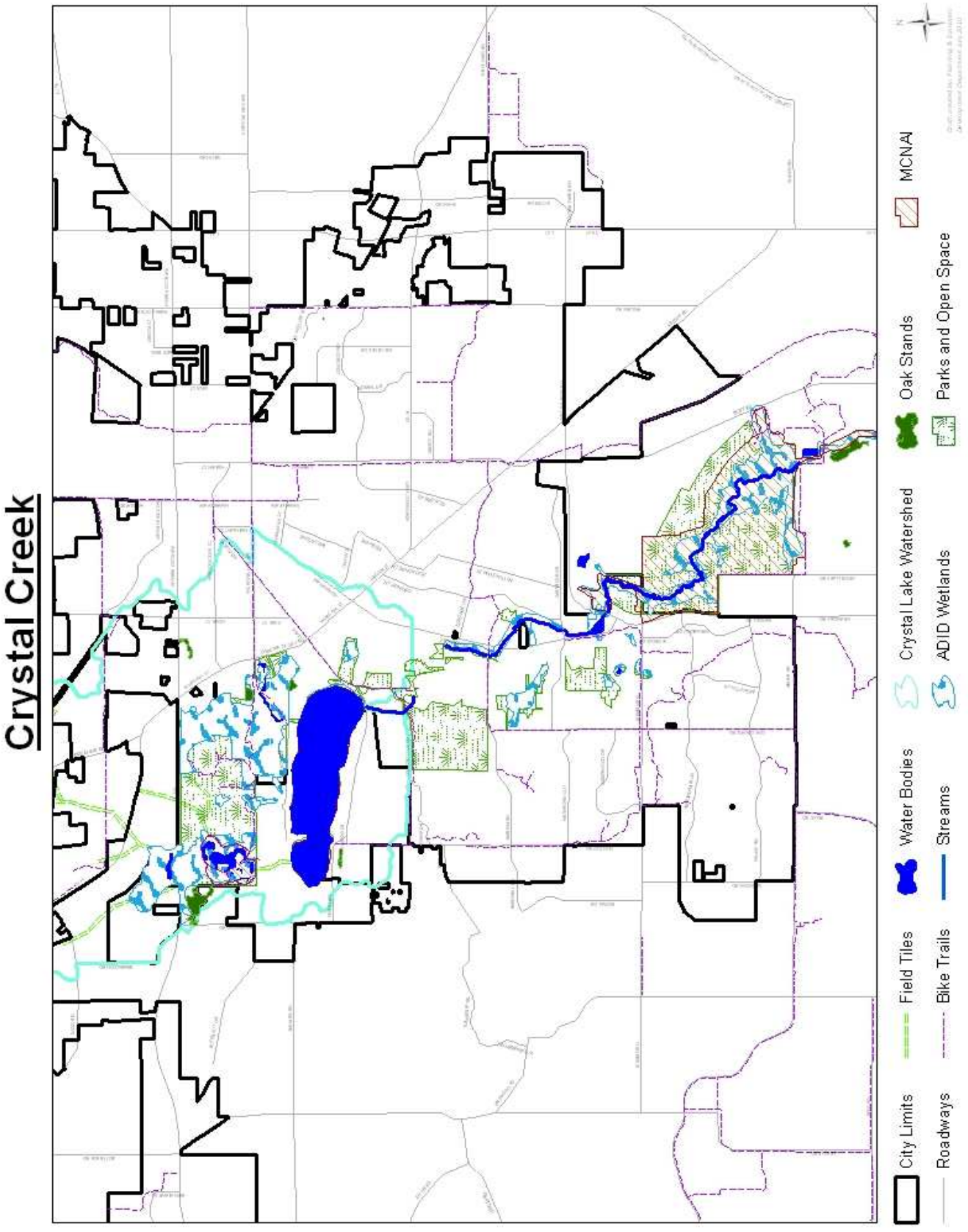
Goal:

Restore the natural setting of Crystal Creek.

Crystal Creek is the natural discharge from Crystal Lake. It flows southeast through Lake In The Hills Fen Nature Preserve west of Pyott Road, eventually meeting up with the Fox River. The most upstream reaches of the creek have been piped or channelized to allow for development and storm water discharge. The creek flows in a mostly natural, meandering channel east of Randall Road. Restoring the natural conditions of the creek corridor, "daylighting" it from underground culverts, and restoring natural hydrology and improved water quality is a priority for this area.

Crystal Creek	
Attribute	*Functions provided*
Habitat	Crystal Creek Fen Lake in the Hills Fen
Water Resources	Crystal Creek storm sewer project (future possible) Dewaters area south of the lake. Surface and piped. Watershed Crystal Creek ADID Wetlands
Recreation	Park District Seminary park 4.5 acres – ball fields Cress creek – unpaved bike path Knaack Park – 6 acres playground and ballfield MCCD Rothschild site

	Recommended Actions	Success Indicators
11.6a	Encourage the restoration of Crystal Creek to its historic surface water conditions.	The creek is retuned to daylight (above ground and not piped). The completion of projects which restore the creek's natural conditions.
11.6b	Implement stormwater BMPs that infiltrate and filter runoff via a runoff reduction hierarchy.	The installation of bio-swales, rain gardens and infiltration strips. Education materials created outlining the dangers of pollution in water run-off from washing cars and phosphorous fertilizers.
11.6c	Encourage private property owners to grant access easements to the creek.	The granting of easements.


Crystal Creek
City Limits
Roadways
Field Tiles
Bike Trails
Water Bodies
Streams
Crystal Lake Watershed
ADID Wetlands
Oak Stands
Parks and Open Space
MCNAI

Secondary Resource Area Details, Actions and Indicators

11.7 Woods Creek





All Photos: Crystal Lake Park District, www.crystallakeparks.org

Goal:

Continue to provide a wide range of recreation opportunities.

The Woods Creek area is the combination of several neighborhood parks. The amenities in this area include ball fields, fishing ponds, hiking/biking trails and children's playgrounds. The Woods Creek system is important because it links several neighborhoods together, creating both a recreation and habitat corridor.

Woods Creek	
Attribute	*Functions provided*
Recreation	Park District Willows Edge Park – 44 acre natural area Sterling Meadows – 5 acres basketball, playground, bike path Woods Creek Park – 40 acres huge crystal castle playground, ball fields, pond, multi-purpose building and annual events Fetzner Park – 22 acres playground, ball fields Winding Creek Park – bike trail and ponds Fishing
Habitat	Birds, mammals and some aquatic species
Water Resources	Creeks and Ponds

	Recommended Actions	Success Indicators
11.7a	Promote the benefits of outdoor play areas.	An increase in the number of people using the parks. An increase in the number of park area or amenities.
11.7b	Work with surrounding property owners to incorporate green living practices.	The installation of rain gardens. The reduction in the use of phosphorous fertilizers.

Secondary Resource Area Details, Actions and Indicators

11.8 Bike Path



Goal:

Provide biking opportunities throughout the City.

There are over 30 miles of bike trails across McHenry County. The Prairie Trail is a 26 mile trail from the Village of Algonquin to the Wisconsin border, bisecting the City. Additional bike or multi-use trails connect into the Prairie Trail. The City is in the process of adopting a Bicycle Facility Master Plan. This master plan will illustrate a variety of routes around the City utilizing on-street and off-street trails.

Bike Path	
Attribute	*Functions provided*
Recreation	Prairie Trail On road and multi-use path bike trails
Transportation	Alternative means of transportation
Health	Cycling burns fat, builds muscle, increases the metabolism and improves cardio-vascular health

	Recommended Actions	Success Indicators
11.8a	Highlight the various bicycle facilities and encourage their use.	The number of uses along the bike trail. The number of new connections to the Prairie Trail.
11.8b	Enhance the bicycling network in the City for recreational as well as transportation purposes.	Adoption of the Bicycle Facility Master Plan.
11.8c	Support MCCD, the Park District and other organizations efforts to improve the bicycling network in and around the City.	Coordinated plans adopted by the City which reflect regional strategies.

Secondary Resource Area Details, Actions and Indicators

11.9 Glacial Potholes



Douglas C. Harr

Goal:

Preserve the natural environment while providing for economic growth in a smart and conscientious manner.

Formed by the receding glaciers as they moved across the landscape, current glacial potholes are found throughout the region. These potholes create a variety and beauty across the landscape. This glacial landscape, with almost 100% potholes, stretching between Crystal Lake and Woodstock is unique in Illinois. Preservation of this feature for aesthetics, habitat and passive recreation uses is important.

Glacial Potholes	
Attribute	*Functions provided*
Recreation	Passive Recreation Could be part of a conservation area
Habitat	A variety of wildlife, natural ecosystem
Water Resources	Creeks Small ponds / ADID Wetlands Ground water recharge

	Recommended Actions	Success Indicators
11.9a	Ensure the protection of this natural area.	The number of conservation easements created or amount of land put into a conservation easement. The amount of land donated to an environmental organization.
11.9b	Implement stormwater BMPs that infiltrate and filter runoff via a runoff reduction hierarchy.	The number of bio-swales installed. The measured improvement in water quality, animal species and vegetation adjacent to water resources.

Secondary Resource Area Details, Actions and Indicators

11.10 Agriculture



www.grouptravelleader.com


McHenry County Farm Bureau. wwwmchenrycfb.org

Goal:

Allow for a variety of land uses including agriculture.

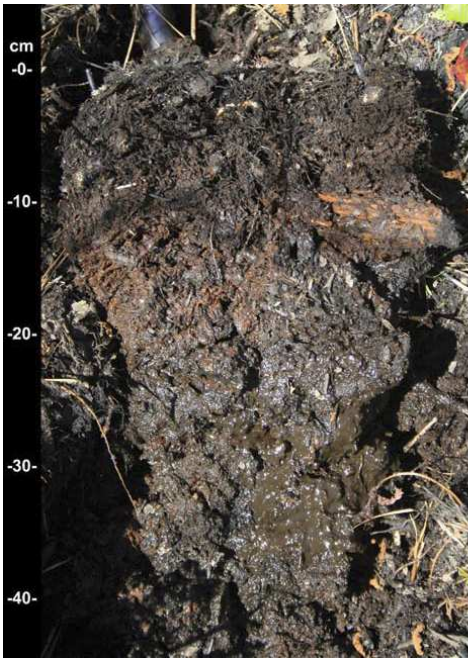
Agriculture is a prominent land use in McHenry County, with the McHenry County Farm Bureau reporting 1,035 farms and approximately 215,584 acres being actively farmed. Agriculture is important for local food products, maintaining a rural character, economic development with agri-tourism and providing jobs. The preservation and enhancement of agriculture activities is important.

Active Agriculture	
Attribute	*Functions provided*
Recreation	Agri-tourism
Habitat	People Local food products Domestic Animals Glacial wetlands, Bird habitat. Aquatic habitat for amphibians and reptiles.
Water Resources	Critical water storage and groundwater recharge
Economic Development	Agri-tourism

	Recommended Actions	Success Indicators
11.10a	Preserve the agricultural way of life.	The area of farmland remaining in the City. The number of organic farms established. An increase in the number of participants in the 4H program.
11.10b	Promote Agri-tourism.	The number of Farmer's Markets or farm stands in the City. Increased attendance at Farmer's Markets. Approval of alternative uses on farms, such as special events or corn mazes.
11.10c	Promote economic development agricultural activities.	The number of agriculture related businesses created or maintained.

Secondary Resource Area Details, Actions and Indicators

11.11 Hydric Soils



USDA, ftp-fc.sc.egov.usda.gov/NSSC/Hydric_Soils/FieldIndicators_v7

Goal:

Limit development on hydric soils and educate the public on their unique characteristics.

Hydric soils are formed under conditions of saturation, flooding or ponding for long periods during the growing season. They develop anaerobic conditions which stop air from mixing well with the soil. Field indicators to look for are wet or moist soil, organic compounds in the soil, deep colors and the presence of muck. Hydric soils are the underlying support of a variety of ecosystems.

Hydric Soils	
Attribute	*Functions provided*
Habitat	Supports certain ecosystems Wetland plants Vernal pool
Water Resources	High ground water Possible wetland
Property Protection	Avoidance of construction in these soils minimizes expensive public and private mitigation efforts in the future due to water seepage and settling of hard infrastructure (roads, foundations, utility pipes, etc.)

	Recommended Actions	Success Indicators
11.11a	Educate the public and property owners about hydric soils.	The number of educational brochures distributed. The amount of hydric soil areas voluntary preserved. The restoration of hydric soil areas.
11.11b	Retain hydric soil areas to create habitat links between green infrastructure elements.	The creation of a Green Infrastructure map that illustrates links between other green infrastructure elements. The number of preservation easements created over hydric soils to create links between green infrastructure elements.

11.12 Neighborhood and Site Strategies

The City encourages property owners to take advantage of green techniques that enhance the neighborhood, improve habitat, improve water quality and add to the green infrastructure system.

Common green infrastructure strategies that individual property owners can install are:

* Bio-Swales
* Rain Garden
* Native Prairie Flowers
* Green Roofs
* Porous Pavement
* Water Conservation



Bio-swales are swales planted with native vegetation used for water drainage. Vegetated swales are a better alternative than storm sewers, since they transport water more slowly and allow for filtering, settling, infiltration, evapotranspiration and soil-water contact.

Rain gardens are appropriate around a runoff source of water such as a depression in the curb or a gutter downspout. They are slightly depressed and planted with native plantings. Native plantings typically have deep root systems that help infiltrate the water back into the ground. Runoff from roofs, driveways, sidewalks and roadways can all be captured in a rain garden rather than washed away through storm sewers. The water will also be better treated as it slowly infiltrates into the ground.



City of Burnsville, MN and Barr Engineering Co.

Native prairie flowers are more adapted to the local climate than turf grass, so do not require extra fertilization or watering. Recognized as one of the biggest obstacles to planting wildflowers on your property is the zoning ordinance. The City is working to ensure that properties with documented wildflowers are not given tickets for weeds. Native prairie flowers also attract native bird, butterfly and insect species.





All photos from the Wildflower Preservation & Propagation Committee; http://thewppc.org

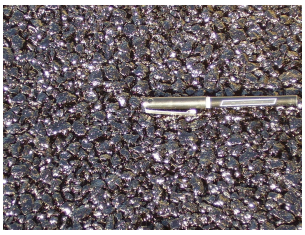
A Natural Garden in Your Yard
WPPC

Green roofs may not be practical for homeowners but can be implemented in business or manufacturing buildings. There are two types of green roof systems, extensive and intensive. Extensive are more common as they use plants with shallow root systems requiring less soil and creating less weight on the structural roof system. Intensive systems utilize deep rooted plants requiring more soil. The benefits of the intensive system is the plant variety that can be achieved, water filtration capability and wildlife habitat.



www.treehugger.com
Apple Store on Michigan Avenue in Chicago

Porous pavement allows for water to percolate through the material back into the ground. Water runoff into storm sewer systems is nearly eliminated.



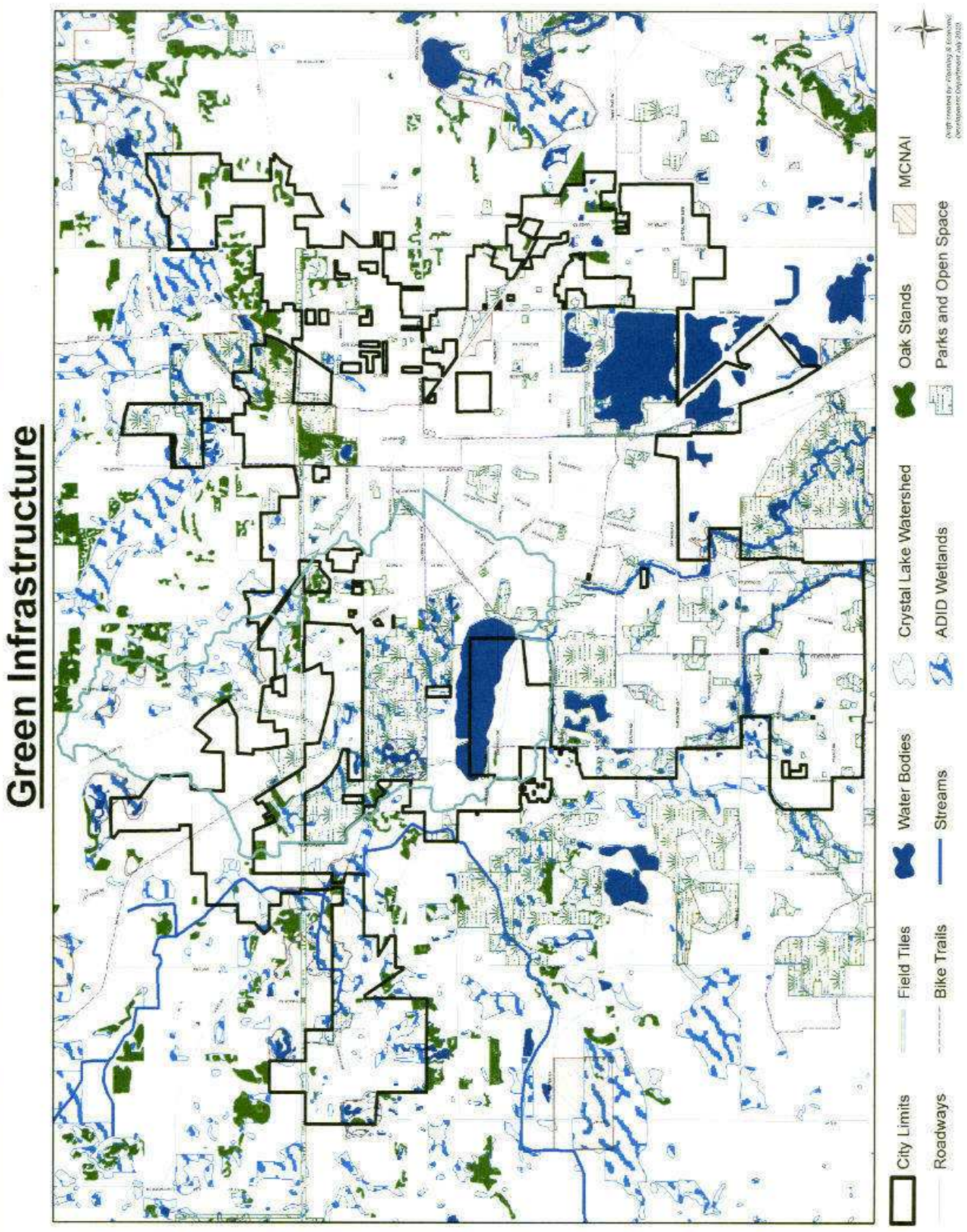
Water conservation is the most important method to preserving clean drinking water. The less water pumped out of the ground the more that remains for future uses and habitat. Water comes from underground aquifer sources or surface water such as lakes and rivers. Water is treated to drinking water quality standards. Although water used is not for drinking purposes. Exterior uses like landscape watering, car washes, power spraying siding or decks, use a lot of water. Interior uses such as sinks, toilets, showers, dishwashers and laundry also make up a large portion of water usage. There are ways to conserve water (1) use less, (2) capture rain water, (3) reuse gray water, and (4) alter current practices (yard watering, hydrant flushing, showers and sinks). Reduction in water use is encouraged for residential, commercial and civic properties.



Experiments in sustainable Urban Living, www.lid-stormwater.net

	Recommended Actions	Success Indicators
11.12a	Encourage the installation of BMP's and alternative methods of water run off treatment.	The increase in the number of rain gardens, living fences, perennial gardens and bio-swales installed. The installation of "green street" practices.
11.12b	Encourage native planting to reduce fertilizer use, conserve water and increase aesthetic value of properties.	The number of educational materials created showing benefits of natural grasses, flowers, shrubs and trees. Increase in properties that utilize native plantings. Reduced use of phosphorous fertilizers.
11.12c	Allow for the installation of green roofs in the UDO as well as the building codes.	The installation of green roofs on commercial buildings.
11.12d	Promote water conservation practices throughout the City.	The adoption of water conservation requirements for residential, business and civic properties. Adoption of water and sewer fees that accurately represent water supply and treatment costs.

Exhibit 1


Green Infrastructure
City Limits
Roadways
Field Tiles
Bike Trails
Water Bodies
Streams
Crystal Lake Watershed
ADID Wetlands
Oak Stands
MCNAI
Parks and Open Space

Conclusion

This chapter in the Comprehensive Plan identifies the existing green infrastructure elements located within and near the City. This plan element is an extension of the City's overall Green Infrastructure Vision. It establishes the overall goal of utilizing alternatives to traditional gray infrastructure. Whereas the Comprehensive Plan establishes the policy framework, the regulatory Ordinances including the Unified Development Ordinance Conservation Overlay District, the Watershed Design Manual and Design Manual Implementation Plan, and the City's Subdivision Standards Article in the UDO set the development standards.

The attached Overall Green Infrastructure Map, Exhibit 1, illustrates the mapped areas. These areas include wetlands, MCCD sites, park sites, nature preserves, MCNAI sites, oak stands, bike paths, bodies of water, and field tiles. This map was used as the base map for the proposed green infrastructure system future connections.

There are two green infrastructure system maps, one for active recreation that connects public open spaces together and one for habitat connections. Exhibit 2, the Green Infrastructure System Map for Active Recreation shows areas for future connections, between the parks. These could most likely be bike trails, walking paths or lineal parks. Eight future connections are shown:

1. Connect the bike trail along the Commonwealth Edison power line easement to Lippold Park using Briarwood.
2. Connect fragmented bike path along Crystal Creek.
3. Connect Three Oaks Recreational Area to Crystal Creek along Dartmoor Drive and existing bike paths.
4. Park connections along Barlina, Alexandra and golf Course Roads. Several parks can be connected together by trails or open space.
5. Provide a link that helps loop the bike trail along Miller Road.
6. Complete the bike path connection along the railroad.
7. Connect Three Oaks Recreational Area to bike paths to the east along Three Oaks Road.

The Green Infrastructure System Map for Habitat Connections, Exhibit 3, illustrates some links between habitat areas. These links are suggested between large natural areas to assist in animal migration between the areas. Five possible areas are shown on the map and described below.

1. Link between the Lussky Parcel (MCCD Site) along the Kishwaukee River through several oak stands to Lippold Park. Addition al oak trees can be planted to fill in this area as well as restoring the riparian corridor along the Kishwaukee River.
2. Crystal Creek starting at Crystal Lake and going to the Rothschild Parcel (MCCD site). This could be the restoration of the Crystal Creek riparian corridor.
3. The land above the drain tiles can also be preserved and used for wildlife trails and passive recreation uses.
4. Utilize the Route 176 buffer to link natural features.

Conclusion

5. Along the northeast fen and oak stands area are several fragmented natural features. Preservation and enhancement of these features can create a linked habitat area.

Also identified are two areas where the City should explore safe wildlife crossing areas. The first is along Route 176 between Mt. Thabor Road and US Route 14. Lippold Park and several other natural areas span both sides of the roadway. The second area is along James R. Rakow Road between Pyott Road and Pingree Road. The gravel mining operations have left natural lakes on either side of the roadway. Safe crossing areas can be delineated with signage.

This land use Element will guide the City in protecting, preserving and enhancing the natural areas and green infrastructure through the City.

Exhibit 2

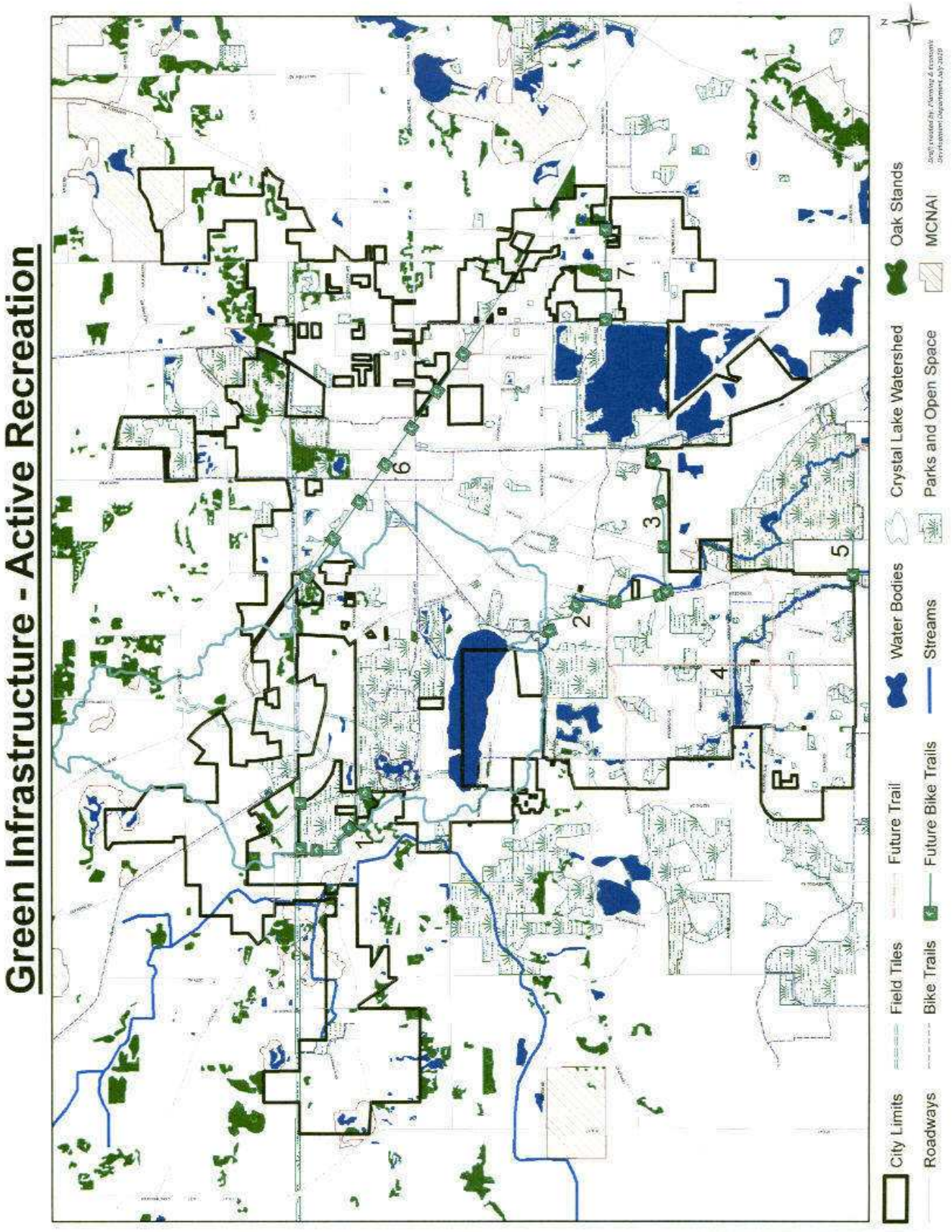
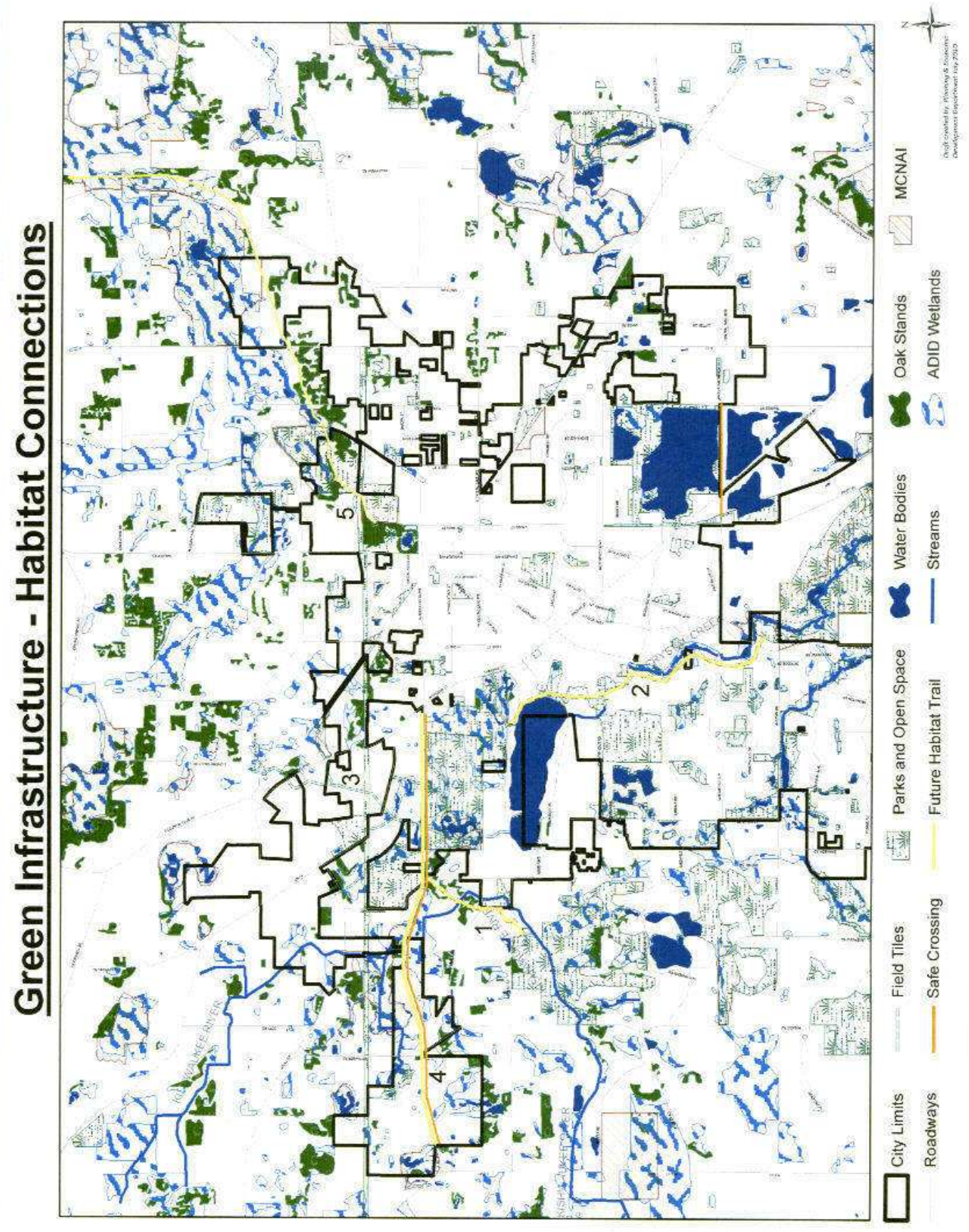

Green Infrastructure - Active Recreation
City Limits
Roadways
Field Tiles
Bike Trails
Future Trail
Future Bike Trails
Water Bodies
Streams
Crystal Lake Watershed
Parks and Open Space
Oak Stands
MCNAI
1
2
3
4
5
6
7

Exhibit 3


Green Infrastructure - Habitat Connections
MCNAI
Oak Stands
ADID Wetlands
Water Bodies
Streams
Parks and Open Space
Future Habitat Trail
Field Tiles
Safe Crossing
City Limits
Roadways
1
2
3
4
5



Chapter twelve

Community Facilities

Introduction

Community facilities are places or services located throughout the City that benefit the community. This chapter is broken down into two main categories, City Facilities and Public Facilities. City Facilities are the professional departments at City Hall, the emergency service personnel including police and fire and utility services for sewer and water. Public Facilities are libraries, schools, health care facilities and private utilities such as telephone, gas and electric. The continued operation and improvement of community facilities is important to the city's quality of life.

Key Elements

This section of the Comprehensive Plan will focus on the following elements:

12.1 City Facilities
- City Hall professional services
- Emergency personnel
- Utility service

12.2 Public Facilities
- Educational facilities
- Health care facilities
- Libraries
- Private utilities

Key Element Details, Actions and Indicators

12.1 City Facilities







Goal:

Provide high quality professional services, efficient emergency services and operate and maintain water, wastewater and storm sewer facilities.

The City of Crystal Lake is committed to the high quality of life enjoyed by the citizens and businesses of the Crystal Lake community. Our mission is to enhance and preserve the history, natural resources and unique cultural traditions of the community as well as provide fiscally sound and responsive services, programs, and facilities with the highest degree of professionalism, integrity, and efficiency so that Crystal Lake continues to be a great place to live and work. City facilities are those that are owned and operated by City personnel.

City Hall Professional Services

Professional staff work in the City Manager's Office, Finance, Community Development, Public Works, Information Technology and Human Resources Departments. Each department provides internal and external customer service.

- City Manager's Office: Provides direction to all other City departments, keeps the City Council and Mayor apprised of current staff business and implements the direction from the Council, and works on special projects, including operation of Three Oaks Recreation Area.
- Finance Department: Responsible for maintaining the integrity of all financial systems, records, and functions of the City in accordance with applicable laws, ordinances, policies, and procedures. These activities include the recording and reporting of all financial transactions, billing and collection of all monies due to the City, making payments to employees and vendors, managing cash and investments, preparing the annual financial report, and developing budget and financial forecasts.
- Community Development: Community Development is the coordination of both the Engineering and Building Department and the Planning and Economic Development Department. Community Development is responsible for project review and inspections, transportation improvements, review of stormwater management facilities, economic development and land use and zoning administration.

- Public Works: This department is organized into six sub divisions, administration, fleet services, sewer & lifts, streets, water and wastewater. The Public Works Department is responsible for maintaining public roadways, vehicles and buildings, collecting and conveying wastewater operating an award winning wastewater treatment system, and providing the highest quality of drinking water to residents.
- Information Technology: Responsible for internal customer service to all departments' technology infrastructure.
- Human Resources: Provides the City departments with assistance and direction as it applies to employee recruitment, employee relations, performance management, as well as, guidance in the administration of organizational policies and federal and state regulations. Additionally, Human Resources handles all areas of benefits administration, classification and compensation administration, personnel records management, labor relations and training and development.

Departments work together to provide seamless transition between services for all customers.

Emergency Personnel

Fire Rescue and Police personnel are trained to provide excellent customer service in everyday tasks as well as in emergency situations.

- Fire Department: The Fire Rescue personnel provide 24-hour emergency response services. The department also established emergency preparedness guides and performs life, safety inspections for the businesses throughout the city. The Crystal Lake Fire Rescue Department through its highly motivated and skilled team of professionals is committed to establishing services designed to protect life and property, improving service through professional interaction, and providing the best possible service to the community. The main fire station is located at City Hall with Station 3 located at 844 Virginia Road and Station 4 at 8705 Bard Road.
- Police Department: The police department is primarily made up of sworn officers which handle the everyday operations, investigations, records keeping and community service programs. Civilian staff also assist the department. The Crystal Lake Police Department strives on a daily basis to provide professional, courteous and uncompromised service to the community. Our highly trained staff provides a variety of services that encompass traditional proactive enforcement initiatives along and identify community concerns so as to create strategies for addressing those issues. The police department is located at City Hall.
- (SEECOM) Southeast Emergency Communications Center. A 911 dispatch center that provides emergency dispatch for a number of municipalities in McHenry County.

Emergency personnel not only work to save lives, they also educate the community on how to live safer through their multiple programs and demonstrations.



City Utilities

The City's Public Works Department operates and maintains the public water, sanitary sewer, wastewater treatment and stormwater systems. Public works in conjunction with the Engineering Division protect ground and surface water sources.

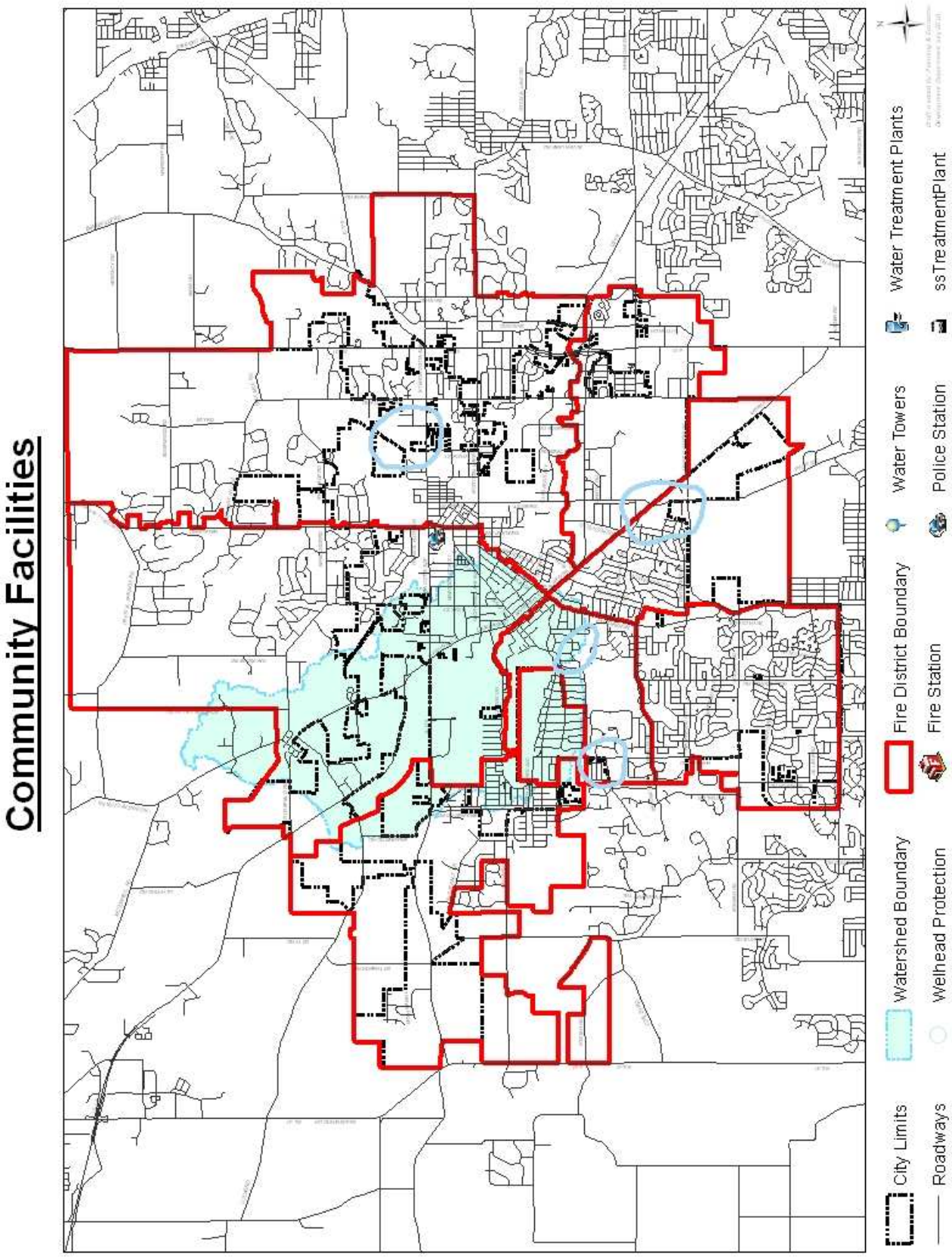
- Public Water System: Responsible for the water production and distribution system which is necessary to provide residential , commercial and industrial water users with safe, clean water that is available for domestic use and fire protection. The water system consist of five water treatment plants, eleven wells, four elevated storage tanks and 229 miles of water main line. The average daily water production is 4.9 million gallons, which rises to 10 million gallons in the summer months. The water division collects and analyzes water samples each day for chlorine, iron, phosphate and hardness. Conservation of water resources is necessary to continue to provide adequate supplies for domestic use.

- Sanitary Sewer System: This system is maintained by both the Sewer & Lifts Division and the Wastewater Treatment Division. Sewer & Lifts maintains the 126 miles of sanitary sewer line and the 26 sanitary pumping stations. They routinely check the lines and pumps and perform cleanings, televising and repairs found during the inspection process. The Wastewater Division manages the City's two wastewater treatment plants. On average, 4.3 million gallons of wastewater are processed every day. Effluent, or treated wastewater, is regulated through a National Pollution Discharge Elimination System (NPDES) permit. The City's effluent meets or exceeds the requirements established through this permit. The Wastewater Division also performs laboratory analysis of samples for NPDES reporting, plant process control, industrial uses monitoring and potable water analysis. The Wastewater Division's pretreatment staff monitors pollutants discharged in the wastewater system by users to ensure regulations established by the Environmental Protection Agency and the City's Pretreatment Program are being adhered to. The sanitary sewer collection system is designed to collect and convey wastewater from households and businesses located within the City's Facility Planning Area (FPA). The City's FPA is a legally defined boundary established under the authority of the Federal Clean Water Act. The City's FPA shares common boundaries with FPAs for Cary, Prairie Grove, Bull Valley, Woodstock, Lakewood and Lake in the Hills.

- Storm Sewer System: Handles the rain and water runoff by transmitting it through storm sewer lines to discharge points. Typical discharge points are streams, lakes and rivers. There is over 60 miles of storm sewer main line and 3 pumping stations. The Engineering Division is responsible for reviewing the storm sewer plans and permits of developments. The departments work together to minimize pollution from water runoff from entering bodies of water. This requirement is more strictly enforced in the Crystal Lake Watershed, where best management practices and multiple levels of storm water treatment are required to treat all water runoff.

	Supporting Actions	Success Indicators
12.1a	Provide excellent customer service to all customers including external and internal customers.	Positive feedback received from customer survey results. The number of projects coordinated between two or more departments. The number of education programs managed annually by emergency service personnel.
12.1b	Carefully plan growth and development to maximize the use of existing public utilities and personnel, while minimizing the need for new infrastructure and impacts on ground and surface water.	The number of new service taps from existing main lines. Zoning changes that allow infill development on non-conforming lots, cluster development and mother-in-law homes.
12.1c	Maintain a capital improvement program and funding system now and in the future based on a system of priorities.	Continued approval of 5-year CIP by City Council. The equitable distribution of costs of providing public services.

Map A


Community Facilities
Water Treatment Plants
ssTreatmentPlant
Water Towers
Police Station
Fire District Boundary
Fire Station
Watershed Boundary
Welhead Protection
City Limits
Roadways

Key Element Details, Actions and Indicators

12.2 Public Facilities





Health Bridge, Crystal Lake

Photo by Centegra

Goal:

Support the specific needs and goals of public facilities to ensure cooperation between public and city facilities for the health, safety and needs of the community.

Public Facilities are located throughout the City and are meant to serve the community in numerous ways. Public facilities are described as public educational facilities, healthcare facilities, libraries and private utility companies such as electric, gas and telecommunications. Although under separate leadership, it is just as necessary for public facilities to address the needs of the community. Park facilities and open space management can also be considered a public facility, though these facilities were discussed in Chapter 8, so will not be repeated here.

Public Education Facilities

There are two school districts in Crystal Lake, District 47 which oversees the elementary and secondary schools and District 155, which oversees the high schools. The school locations are illustrated on Map B.

"Educational excellence for all students is our passion," District 47's Mission Statement from their 2009-2012 Strategic Plan. District 47 oversees 13 schools with an enrollment of over 8,000 students. The list of schools is as follows:

- Canterbury Elementary
- Coventry Elementary
- Glacier Ridge Elementary
- Hannah Beardsley Middle School
- Husmann Elementary
- Indian Prairie Elementary
- Lundahl Middle School
- North Elementary
- Richard Bernotas Middle School
- South Elementary
- West Elementary
- Woods Creek Elementary
- Wehde Early Childhood Center

The school district has identified visions for the Board of Education, the Leadership Team, Certified Staff, Support Staff, Parents, and Students. They have also set goals to achieve in Reading and Writing.

Community High School District 155 oversees 4 comprehensive high schools and 1 alternative education campus in the Crystal Lake Area. The schools are as follows:

- Cary—Grove High School
- Central High School
- Haber Oaks Campus for alternative education
- South High School
- Prairie Ridge High School

District 155 has specific strategies to help them achieve their mission, "For each student, we will inspire a love for learning, empower the pursuit of personal aspirations, and nurture a desire to contribute to the world."

It is important for the City of Crystal Lake to work with both School Districts to help them achieve their vision and goals.

Health Care

Health Care facilities are located throughout Crystal Lake, typically as medical office buildings rather than large hospitals. Medical office buildings can house doctors in a certain specialty or it may be one location with doctors in all specialties. Centegra, one of the two largest medical service providers in Crystal Lake, has a Medical Arts building which houses offices of numerous doctors in a variety of specialties. Centegra has a total of 6 facilities within the City limits. Centegra also operates Health Bridge a multi-use fitness and rehabilitation facility. The other large medical provider is Mercy Health Systems, which operates 5 facilities in the City limits. Three of their five locations are adjacent to each other in a medical office campus style development, making it easy for patients to access a variety of services. Convenient access to health care facilities is crucial in supporting a healthy community. The City should respect the endeavors of health care providers and support their need to provide services.

Library

The Crystal Lake Library is regulated by a Board of Trustees. The Library Board is composed of nine City residents, appointed by the Mayor of Crystal Lake with the approval of the City Council for three-year terms. The Board is responsible for the Library's budget, policies and strategic plan. The Library Director, Kathryn Martens is the staff liaison for the Board. Their mission statement is, "Helping people, of all ages and backgrounds, learn, enjoy and better their lives." The Library accomplishes this mission by providing numerous services as well as materials for borrowing. The employees of the Library are hired through the City of Crystal Lake, they are responsible to the citizens of Crystal Lake, the City Council Members, the Board of Trustees and the City Manager.

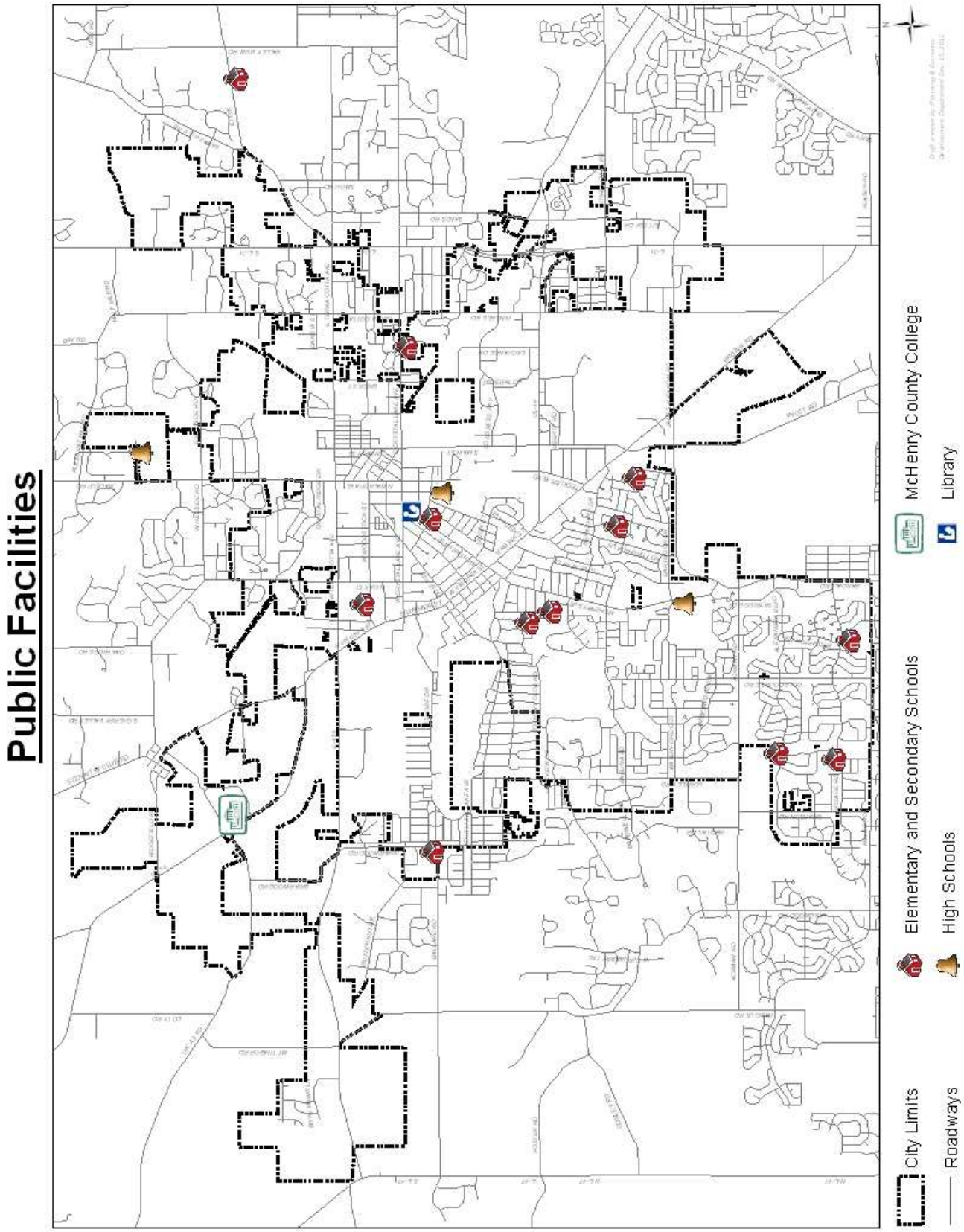
Private Utilities

The private utilities are classified as Electric, Natural Gas, Cable, Telephone, Internet, Satellite and Wireless Communication services. Although some of these companies may be publically traded and answer to the public, this Comprehensive Plan is considering them private since they are not regulated by the City. The City does enter into franchise agreements with these utility companies allowing their facilities in the City as well as respecting what rights they have to provide service to their customers. While Crystal Lake is not responsible for private utilities, the City cooperates with private companies to ensure appropriate placement, the health and safety of residents is met, and levels of service to the City as a whole.

The following are the supporting actions and success indicators for public facilities.

	Supporting Actions	Success Indicators
12.2a	Support new locations and expansions of existing facilities for public education facilities.	The number of sites approved for public education. The yearly evaluation of impact fees for schools to determine if the fees charged are appropriate.
12.2b	Support the needs of health care facility providers.	The number of healthcare facilities granted occupancy permitted by right. The total number of health care facilities within the City limits.
12.2c	The Library shall continue to provide services to the community.	Increase in the number of services provided to card holders. Increase in circulation of materials.
12.2d	Carefully plan for utility service extensions to ensure compatibility with existing infrastructure and land uses.	Increase in joint trenching and burial efforts. Increase in the amount of facilities maintained per year including upgrading and burial.

Map B


Public Facilities
McHenry County College
Library
Elementary and Secondary Schools
High Schools
City Limits
Roadways