A detailed topographic map of the Waterford area in Racine County, Wisconsin. The map shows various land use patterns, including agricultural fields, wooded areas, and water bodies like Tichigan Lake and Wind Lake. Major roads and highways are marked with numbers. The town of Waterford is centrally located, with surrounding areas like Vernon, Caldwell, and Rochester also visible. The Fox River and Fox River Airport are also depicted. The map is overlaid with a grid system.

# **A LAND USE PLAN FOR THE TOWN OF WATERFORD: 2010**

## **RACINE COUNTY WISCONSIN**



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Special acknowledgement is due Mr. Arnold L. Clement, Director, and Mr. Brian D. Jensen, Code Administration Technician, Racine County Division of Planning and Development, and Mr. David A. Schilling, SEWRPC Senior Specialist, for their contributions to the preparation of this report.



**COMMUNITY ASSISTANCE PLANNING REPORT  
NUMBER 217**

**A LAND USE PLAN FOR THE TOWN OF WATERFORD: 2010  
RACINE COUNTY, WISCONSIN**

Prepared by the

Racine County Division of Planning and Development  
14200 Washington Avenue  
Sturtevant, Wisconsin 53177

and

Southeastern Wisconsin Regional Planning Commission  
P. O. Box 1607  
Old Courthouse  
916 N. East Avenue  
Waukesha, Wisconsin 53187-1607

May 1995

Inside Region \$3.00  
Outside Region \$6.00



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# SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION

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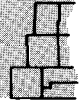
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May 31, 1995

Mr. Robert E. Langmesser  
Chairman  
Town of Waterford and Members of the  
Town Board and Plan Commission  
415 N. Milwaukee  
Waterford, Wisconsin 53185

Ladies and Gentlemen:

In November 1992, the Town of Waterford requested the assistance of Racine County and the Southeastern Wisconsin Regional Planning Commission in the preparation of a land use plan for the Town. The Racine County and Regional Planning Commission staffs, working with the Town of Waterford Land Use Plan Committee, comprised of both public officials and private citizens, has now completed the requested plan, which is presented in this report. The plan is intended to help guide the physical development of the Town to the year 2010 and to assist Town officials in making day-to-day decisions regarding development within the Town.

In addition to setting forth the land use plan adopted by the Town Plan Commission in October 1994, this report presents pertinent information on the present stage of development in the Town, including information on population and housing units; on existing land use; and on the topography and drainage pattern, soils, woodlands, wetlands, wildlife habitat, prime agricultural areas, and environmental corridors of the Town, all of which constitute important considerations in any local planning effort. The report also contains recommendations for the proper implementation of the plan, including recommended changes to the Town zoning district map and modifications to the text of the Racine County Zoning Ordinance.

Racine County and Regional Planning Commission are appreciative of the assistance of the Town Plan Committee during the preparation of this report. The Racine County and Commission staffs stand ready to assist the Town in the implementation of this plan over time.

Sincerely,

Kurt W. Bauer  
Executive Director



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## Chapter I

### INTRODUCTION

Section 60.10(2)(c) of the Wisconsin Statutes provides that town boards may exercise village powers, including comprehensive planning powers delegated to cities and villages under Section 62.23 of the Statutes, the city planning enabling act. The Town of Waterford has adopted such powers.

The city planning enabling act, as set forth in Section 62.23 of the Statutes, provides for the creation of plan commissions and charges those commissions with the duty and function of making and adopting a "master," or comprehensive, plan for the physical development of the municipality. The scope and content of the comprehensive plan, as set forth in the Statutes, is very broad, extending to all aspects of the physical development of a community. The Statutes indicate that the master plan shall be made with the general purpose of guiding and accomplishing a coordinated, adjusted, and harmonious development of the community which will, in accordance with existing and future needs, best promote the public health, safety, morals, order, prosperity, and general welfare, as well as efficiency and economy in the process of development. To carry out the planning responsibilities attendant to the adoption of village powers, the Waterford Town Board created a Town Plan Commission on May 11, 1992.

In November 1992, the Town of Waterford requested, and Racine County and the Southeastern Wisconsin Regional Planning Commission agreed to prepare jointly, a land use plan for the Town. The plan was to provide Town officials with a tool to guide and shape land use in the Town better. This report sets forth the findings and recommendations of the planning effort undertaken in response to that request. It is intended to assist in defining the land use development objectives of the Town and in identifying means for achieving those objectives over time.

The planning effort involved extensive inventories and analyses of the factors and conditions affecting development in the Town, including the preparation of projections of the possible range of future population and economic activity levels within the Town; extensive inventories of the natural and man-made bases of the Town, including existing land

use, soils, flood hazard areas, woodlands, wildlife habitat, and wetlands; an inventory of existing local plan implementation devices; careful analyses of the inventory findings; and the development and adoption of a plan which may be expected to accommodate probable future population and employment levels in a manner consistent with the local land use development objectives of the Town. The plan, when adopted by the Town Plan Commission and Town Board, is intended to serve as a guide to the protection of the prime agricultural lands and environmentally significant areas of the Town and to direct future land use development in the Town in a manner consistent with the promotion of public health, safety, and general welfare.

### THE PLANNING AREA

The planning area considered consists of the Town of Waterford, located in northwestern Racine County and encompassing an area of about 34.3 square miles. As shown on Map 1, the Town is bounded on the north by the Town of Vernon in Waukesha County, on the east by the Town of Norway, on the south by the Village of Waterford and the Town of Rochester, and on the west by the Town of East Troy in Walworth County.

### EARLY TOWN HISTORY<sup>1</sup>

The area now called the Town of Waterford was once inhabited by American Indian tribes, including the Paleo-Indians, the Archaic Indians, the Woodland Indians, and, most recently, the Potawatomi Indians. The Woodland Indians' extensive use of effigy mounds caused the Potawatomi Indians to refer to the area as "Tischargan," meaning "home of the dead." As the years progressed, this name eventually became "Tichigan." The early Indian activity in the area has caused the Town of Waterford to be one of the areas of the County richest in Indian archaeology.

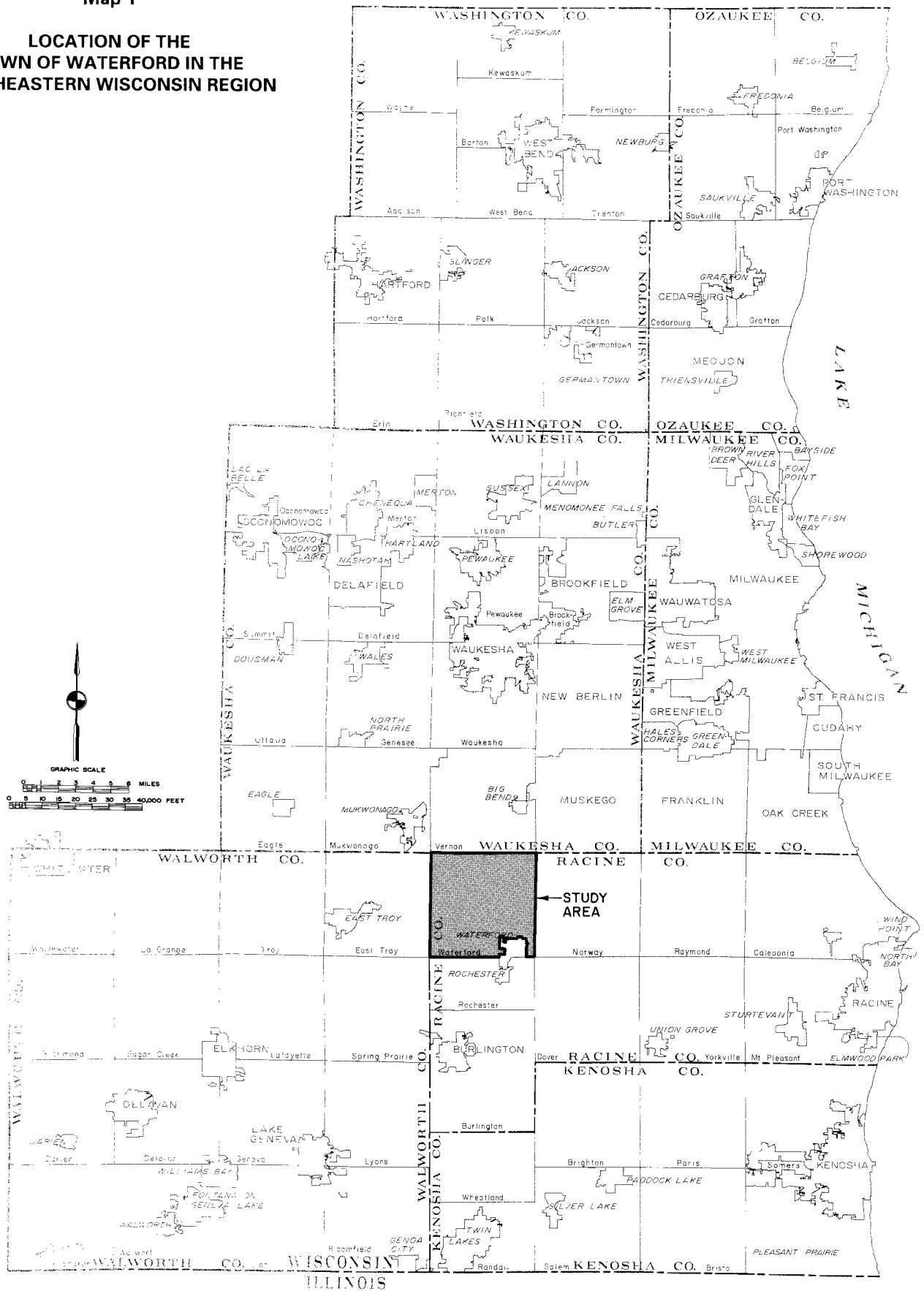
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<sup>1</sup>The history of the Town of Waterford was derived, in part, from "Racine—Growth and Change in a Wisconsin County," SEWRPC Technical Record, Vol. 4, No. 3, and Session Laws of Wisconsin Territory.



Map 1

**LOCATION OF THE  
TOWN OF WATERFORD IN THE  
SOUTHEASTERN WISCONSIN REGION**



Source: SEWRPC.



By an act of the Territorial Legislature on January 2, 1838, the civil Town of Rochester was established, encompassing approximately the western half of Racine County. On November 12, 1852, by act of the Racine County Board, the civil Town of Waterford, Town 4 North, Range 19 East, was detached from the Town of Rochester.

Desirable land attracted farming families to this area following completion of the U. S. Public Land Survey in 1836 and 1837. The Town of Waterford was first settled by Samuel E. Chapman and Levi Barnes in May 1836. In 1837, Chapman and Barnes obtained the water-power rights on the Fox River and in 1838 built a dam and later a sawmill and flour mill, establishing the nucleus of what would become the Village of Waterford. Also in 1836, a second rural settlement was started by Joseph and Tyler Caldwell. Caldwell's Prairie, as it was known then, was located in the extreme northwest corner of the Town, at the crossroads of what is now CTH L and CTH O. Because the settlement was on the well-traveled wagon road from Milwaukee to Beloit and Janesville, the first buildings erected in Caldwell's Prairie included two hotels. The hamlet of Caldwell, as it came to be called, simply remained part of the larger rural community of the Town without urban aspirations.

The year 1836 marked the completion of the U. S. Public Land Survey over the area that now comprises the Southeastern Wisconsin Region, including Racine County. The survey, established by an act of the Continental Congress in 1785, formed an important basis for defining county and local government civil division boundaries and stands today as the basis for all division of land and for all real property boundary descriptions in the area. The U. S. Public Land Survey permitted the ready transfer of the ownership of land from the Federal government to private citizens and was essential for settlement and private development of the area.

By 1842, settlers had bought up most of the land in the Town. Early Census figures indicate that approximately 75 percent of the settlers were native-born Americans, with the remainder largely German immigrants. By 1850, much of the land was cleared for raising sheep to supply wool to the nearby Milwaukee market. With the influx of settlers into the Tichigan Lake area, the first school, Washington Caldwell Grade School, was built in 1850, accommodating an enrollment of 29 students. An additional elementary school was built in 1867, and in 1904 a high school was built in what is now the Village of Waterford.

In 1890, August Schmidt, a German immigrant, purchased land near the crossroads of what is now STH 164 and North Lake Drive. This area was initially known as "Schmidt's Corners," and later became known as "Tichigan Corners." Schmidt built a two-story blacksmith shop and an icehouse. The first church in the area, St. Thomas Aquinas Catholic Church, was built in 1851; the Congregational Church was built in 1859. During subsequent years, farming practices changed from raising sheep to growing potatoes, melons, and sweet corn. By 1900, development had increased along what is now STH 164. A cheese factory and creamery were built near Tichigan Corners. August Schmidt's son, Fred, gave up the blacksmith business in 1911 for a garage and filling station business. He was also an implement dealer for International Harvester equipment and sold Overland cars. In 1934, the unique Tower Garage was built at the southwest corner of STH 164 and North Lake Drive. At the same time, Joe McDonald built a grocery store and tavern in the Tichigan Corners area.

By 1920, the Tichigan Lake area had become popular as a summer resort and cottage area, attracting wealthier people from the Milwaukee and Racine urban areas during the warm summer months. Summer cottages and recreational homes developed around the Fox River Impoundment and Tichigan Lake. Without zoning to guide such development, lots were sold along the lakeshore with little concern for sound planning principles. In 1953 the Town Board, recognizing the problem, established minimum lot sizes and restricted development to single-family homes. The rest of the Town developed on an agricultural economic base. The pattern of historic urban growth in the Town of Waterford is shown on Map 2.

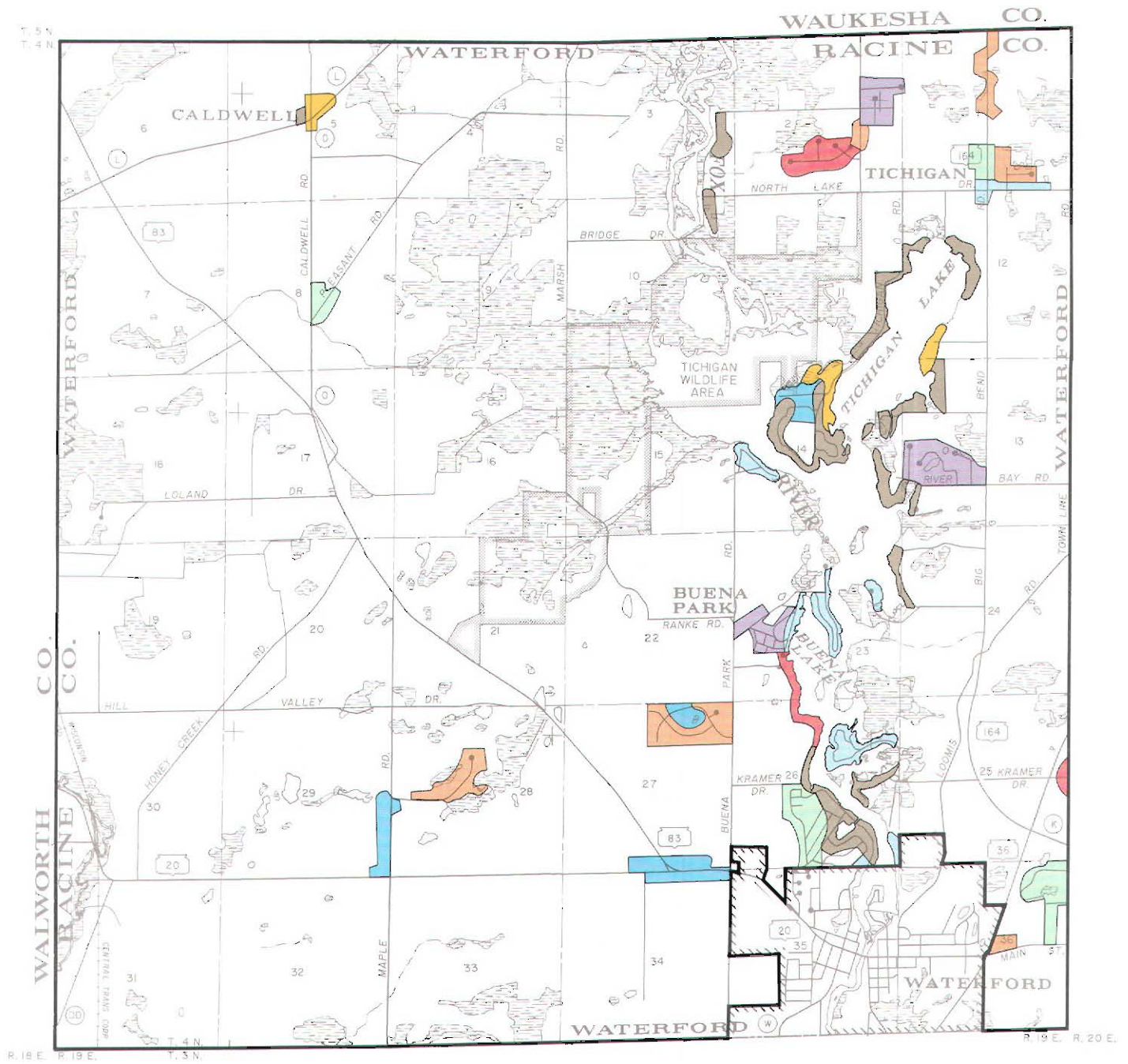
## REGIONAL INFLUENCES

Sound planning practice dictates that local plans be prepared within the framework of broader areawide plans. The Southeastern Wisconsin Regional Planning Commission is the official areawide planning agency for the seven-county Southeastern Wisconsin Region, which includes Racine County and the Town of Waterford. The Commission has, since its creation in 1960, pursued the preparation of an advisory plan for the physical development of the Region through the systematic formulation of those elements of such a plan considered most important to the units and agencies of government operating within the Region. The salient recommendations of the adopted regional plan elements applicable to the



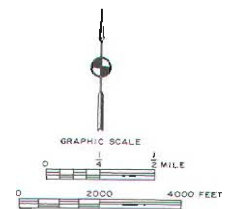
Map 2

HISTORIC URBAN GROWTH IN THE TOWN OF WATERFORD: 1920-1990



LEGEND

1920	1975
1950	1980
1963	1985
1970	1990



Source: SEWRPC.



Town of Waterford are graphically summarized on Maps 3, 4, and 5.

The adopted regional land use plan, as set forth in SEWRPC Planning Report No. 40, A Regional Land Use Plan for Southeastern Wisconsin: 2010, provides recommendations with respect to the amount, spatial distribution, and general arrangement of the various land uses required to serve the needs of the existing and anticipated future resident population and economic activity levels within the Region. Particularly pertinent to the preparation of a land use plan for the Town of Waterford are the recommendations contained within the adopted regional land use plan for the preservation of the primary environmental corridors and prime agricultural lands of the Region and for the encouragement of a more compact pattern of urban development in those areas covered by soils suitable for urban use, that are not subject to such special hazards as flooding, and that can be readily and economically served by such essential urban facilities and services as public sanitary sewerage and water supply. These recommendations of the regional land use plan provide a sound framework for the development of a local land use plan. The adopted regional land use plan as it pertains to the Town of Waterford is shown on Map 3.

The adopted regional transportation system plan, as described in SEWRPC Planning Report No. 41, A Regional Transportation System Plan for Southeastern Wisconsin: 2010, provides recommendations as to how the regional land use plan can best be served by arterial street and highway and transit facilities. It recommends a functional and jurisdictional system of arterial streets and highways to serve the Region through the design year 2010, together with a functional network of various types of transit lines. The regional transportation system plan was developed on the basis of careful quantitative analyses of existing and probable future traffic movements within the Region and of existing highway and transit system capacity and use. The transportation system plan as it pertains to the Town of Waterford planning area is shown on Map 4. The plan as shown on Map 4 is fully consistent with the County jurisdictional highway system plan as adopted by Racine County in 1990.

The adopted regional park, outdoor recreation, and related open space plan, as described in SEWRPC Planning Report No. 27, A Regional Park and Open Space Plan for Southeastern Wisconsin: 2000, identifies existing and probable future park and open space needs within the Region and recommends a

system of large regional resource-oriented parks, recreational corridors, and smaller urban parks to meet these needs and to provide form and structure to urban development within the Region. The adopted regional plan has been refined and detailed by the Commission for Racine County as documented in SEWRPC Community Assistance Planning Report No. 134, A Park and Open Space Plan for Racine County, adopted by Racine County in 1989, and for the Town of Waterford as documented in SEWRPC Community Assistance Planning Report No. 71, A Park and Open Space Plan for the Town of Waterford, adopted by the Town in 1990, all as shown on Map 5.

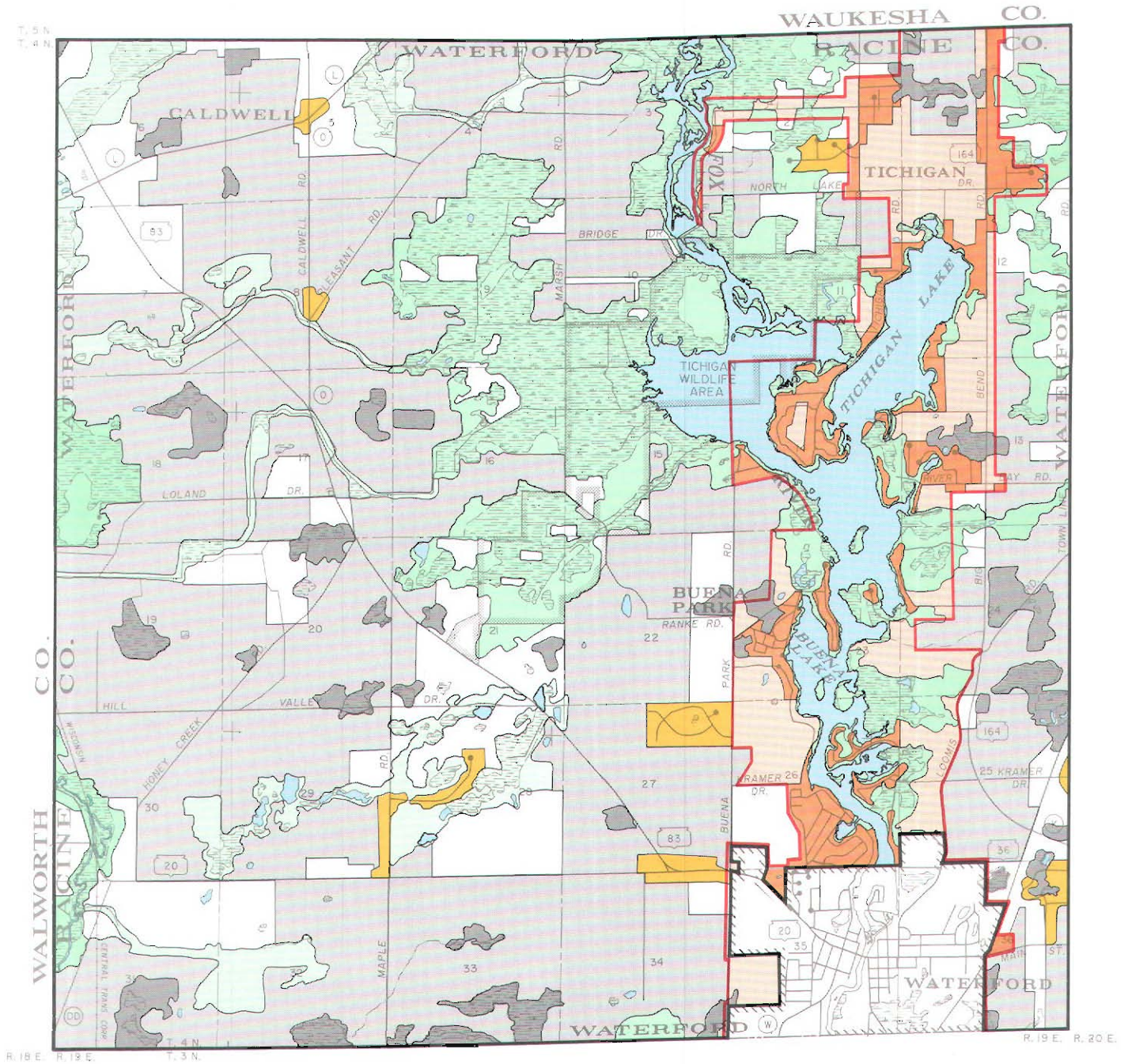
The findings and recommendations of the water quality management planning program for Southeastern Wisconsin are described in Planning Report No. 30, A Regional Water Quality Management Plan for Southeastern Wisconsin: 2000. The plan documented in this report consists of a land use and sanitary sewer service area element, a point source water pollution abatement element, a nonpoint source water pollution abatement element, a wastewater sludge management element, and a water quality monitoring element. The regional water quality management plan includes recommended sanitary sewer service areas attendant to each recommended sewage treatment facility and related trunk sewer facilities in the Region. These initially recommended sanitary sewer service areas were based upon the urban land use configuration identified in the Commission-adopted regional land use plan for the year 2000. The recommended sanitary sewer service area for the Town of Waterford, as identified in regional plans, has been refined and detailed by the Commission as documented in SEWRPC Community Assistance Planning Report No. 141, Sanitary Sewer Service Area for the Waterford/Rochester Area, adopted by the Western Racine County Sewerage District in 1986, and two amendments to that plan adopted by the Western Racine County Sewerage District in 1988 and 1989, respectively.

In addition to the regional plan elements, there is a subregional plan element which is also of importance to the Town of Waterford planning area. This plan element consists of a comprehensive plan for the Fox River watershed, documented in SEWRPC Planning Report No. 12, A Comprehensive Plan for the Fox River Watershed. This subregional plan contains recommendations for generalized land use, resource conservation, park and outdoor recreation, flood control, and stream and lake water pollution abatement, as well as water supply plan



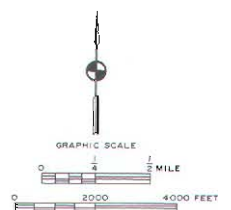
Map 3

ADOPTED REGIONAL LAND USE PLAN AS RELATED TO THE TOWN OF WATERFORD: 2010



LEGEND

- |  |  |
|--|--|
| <span style="color: red;">—</span> PLANNED URBAN SERVICE AREA  | <span style="background-color: #90EE90; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span> PRIMARY ENVIRONMENTAL CORRIDOR   |
| <span style="background-color: #FFA500; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span> LANDS CURRENTLY SERVED BY PUBLIC SANITARY SEWER                | <span style="background-color: #E0F7FA; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span> SECONDARY ENVIRONMENTAL CORRIDOR |
| <span style="background-color: #FFCC99; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span> ADDITIONAL LANDS PLANNED TO BE SERVED BY PUBLIC SANITARY SEWER | <span style="background-color: #4F6078; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span> ISOLATED NATURAL RESOURCE AREA   |
| <span style="background-color: #FFD700; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span> EXISTING URBAN LANDS OUTSIDE OF PLANNED URBAN SERVICE AREA     | <span style="background-color: #ADD8E6; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span> SURFACE WATER                    |
| <span style="background-color: #90EE90; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span> PRIME AGRICULTURAL LAND  |  |

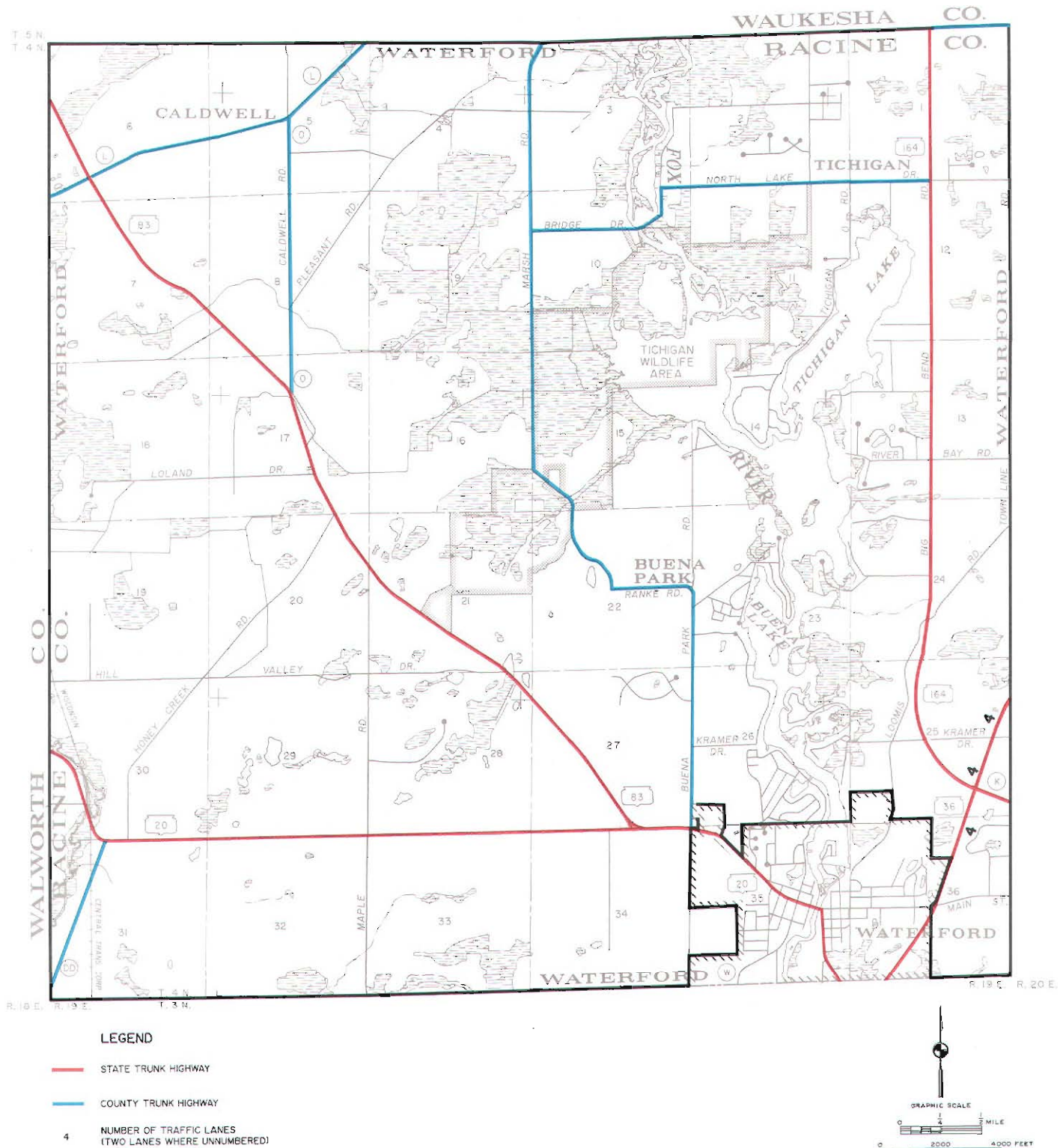


Source: SEWRPC.



Map 4

ADOPTED REGIONAL TRANSPORTATION SYSTEM PLAN AS RELATED TO THE TOWN OF WATERFORD: 2010

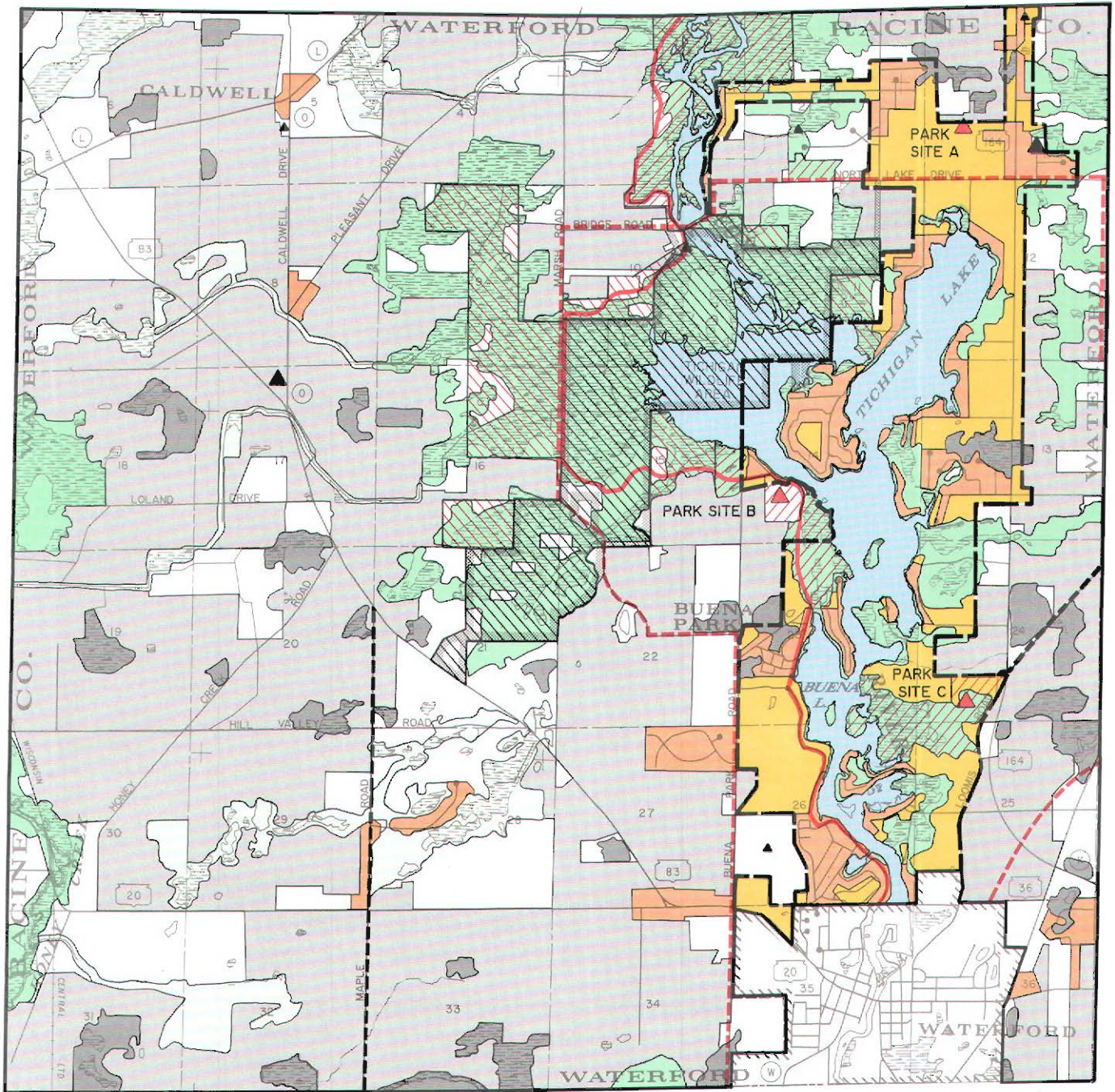


Source: SEWRPC.



Map 5

TOWN OF WATERFORD PARK AND OPEN SPACE PLAN



LEGEND

- URBAN SERVICE AREA BOUNDARY
- EXISTING URBAN DEVELOPMENT: 1985
- PLANNED URBAN DEVELOPMENT
- OTHER OPEN LANDS

NATURAL RESOURCES

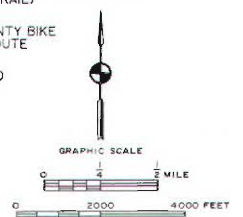
- PRIMARY ENVIRONMENTAL CORRIDOR
- SECONDARY ENVIRONMENTAL CORRIDOR
- ISOLATED NATURAL AREA
- SURFACE WATER
- PRIME AGRICULTURAL LAND

PARK AND OPEN SPACE SITES

- ▲ EXISTING TOWN SITE
- ▲ PROPOSED TOWN PARK
- ▲ SELECTED OTHER EXISTING OUTDOOR RECREATION SITE
- EXISTING TICHIGAN WILDLIFE AREA
- PROPOSED TICHIGAN WILDLIFE AREA
- PROPOSED FOX RIVER PARKWAY

RECREATION TRAILS AND ROUTES

- PROPOSED FOX RIVER RECREATION CORRIDOR (TRAIL)
- RACINE COUNTY BIKE TRAIL OR ROUTE
- RUSTIC ROAD



Source: SEWRPC.



elements which pertain to the Town of Waterford planning area.

The findings and recommendations of the regional and subregional plan elements all have important implications for any comprehensive planning effort for the Town of Waterford. The pertinent recommendations of these plan elements contained in these reports are included in this plan by reference and are considered further in the inventory and analysis chapters of this report.

## STUDY PURPOSE

The purpose of the requested planning effort is to provide the Town of Waterford with one of the key elements of a comprehensive community development plan, a land use plan. This plan, while primarily intended to meet local planning objectives, is also intended to carry related regional and county plan elements into such depth and detail as necessary for sound regional, county, and local planning. In conducting this planning effort, every attempt was made to identify the physical constraints imposed upon, and the opportunities open to, the Town of Waterford; to set forth a sound set of land use development objectives for the Town; and to determine proper locations for the various anticipated land uses within the Town to the plan design year 2010. Finally, plan implementation measures and devices needed to effectively carry out the recommended plan were identified with particular emphasis upon recommended revisions to the Racine County-Town of Waterford Zoning Ordinance and Map and Subdivision Control Ordinances.

## THE COMMUNITY LAND USE PLANNING PROCESS

The recommended plan presented herein was developed through a land use planning process consisting of the following steps: 1) a comprehensive inventory of the factors affecting development in the Town, 2) a careful analysis of the inventory data, 3) the formulation of community land use objectives, 4) the identification of land use needs in the planning area through the year 2010, based upon the population and economic activity forecasts and the land use objectives, 5) the development and evaluation of the recommended plan, and 6) the recommendation of plan implementation measures. The preparation of the plan was guided by a Town Plan Committee representing a wide range of interests in the Town

of Waterford. Membership of this Committee is listed on the inside front cover of this report.

## Inventory and Analysis

Reliable basic planning data are absolutely essential to the formulation of a workable land use plan. Consequently, inventory becomes the first operational step in the planning process. The crucial nature of factual information in the planning process should be evident, since no intelligent forecasts can be made or alternative courses of action evaluated without knowledge of the current state of the system being planned. The sound formulation of a land use plan for the Town of Waterford requires that factual data be developed on historic and existing population and employment levels. The plan will also require data on the existing land use pattern, on the potential demand for each of the various major land use categories, on the major determinants of these demands, on local planning objectives and constraints, and on the underlying natural resource base.

The necessary inventory and analyses not only provide data describing the existing conditions, but also provide a basis for identifying existing and potential problems in the planning area, as well as opportunities and potentials for urban growth. The inventory data are also crucial to the forecasting of community development needs and to developing and evaluating the land use plan.

## Formulation of Community Land Use Planning Objectives

An objective may be defined as a goal or end toward the attainment of which plans and policies are directed. Planning is a rational process for formulating and attaining objectives. The objectives developed serve as a guide to the preparation of the land use plan. Objectives may change as new information is developed, as objectives are fulfilled through plan implementation, or as objectives fail to be implemented owing to changing public attitudes and values. The formulation of objectives should involve the active participation of officials and citizens. The active participation of the Town citizenry and elected and appointed officials in the planning process was facilitated through public meetings, including several Town land use Committee meetings, and the incorporation of the findings of recently completed Town surveys.

## Identification of Community Land Use and Facility Requirements

Although the preparation of forecasts is not planning, a land use plan must, to the extent possible,



anticipate future requirements as a basis for the development of the plan. In the planning effort, forecasts are required of future events and conditions which are outside the scope of the system to be planned. The future demand for land and facilities will depend primarily upon the size of the future population and the nature of future economic activity within the Town. Control of changes in population and economic activity levels, however, lies largely, although not entirely, outside the scope of government activity at the local level and thus outside the scope of the local planning process. Future population and economic activity levels must, therefore, be forecast. These forecasts, in turn, can be used to determine the probable future demand for land uses and facilities. This is not to say that governmental policies at the local level cannot influence the course of development and, consequently, of population and economic activity growth rates.

#### Development and Adoption of Recommended Plan

Having estimated the probable future demand for land use and facilities, a land use plan which meets the demands can be developed. The plan should be evaluated on the basis of its ability to attain the agreed-upon land use objectives. The evaluation should be made by the Town Land Use Plan Committee. Such evaluation involves the use of data obtained both during the inventory and analysis stages of the planning process and during the later plan design stages.

#### Plan Implementation

Implementation of the adopted land use plan requires the use of several planning tools of a legal nature. A zoning ordinance and accompanying zoning map should be used to assure legally that private development and redevelopment occur in conformance with the adopted plan. The zoning regulations should govern not only the types of land uses permitted in various parts of the community, but also the height and arrangement of buildings on the land, the intensity of the use of land, and the supporting facilities needed to carry out the intent of the land use plan. Land subdivision regulations should be applied to assure that any proposed land subdivision plats and certified survey maps conform to the plan with respect to the proposed land uses to be accommodated. Implementation of the plan should also be furthered by the formulation of public policies that will ensure plan implementation.

#### Plan Review and Reevaluation

The preparation of a town land use plan does not signal an end to the planning process. Indeed, if the Town of Waterford plan is to remain viable, it must be periodically reviewed and reevaluated to make sure that it will meet the continually changing needs of the Town. Periodic review of the plan will serve to remind Plan Commission and Town Board members of the land use development objectives identified in the plan preparation process, introduce plan concepts to new Town officials, and may even prompt work on plan amendments required as a result of changing public policy related to future development in the Town. This could include consideration of commercial or industrial development proposals that are not specifically identified in the Town plan, but which local officials may determine to be suitable for a specific site in the Town.

#### REPORT STRUCTURE

This planning report consists of eight chapters. Following this introductory chapter, Chapter II, "Population, Households, and Employment Inventory, Analysis, and Forecasts," presents both the historic and forecast population, household, and employment data for the year 2010 that were used in the planning effort. Chapter III, "Natural Resource Base," presents information pertaining to the natural resource base of the Town of Waterford, including data on soils, topography, drainage, wetlands, floodlands, scenic vistas, woodlands, wildlife habitat, and parks. Chapter IV, "Man-Made Environment," presents relevant data on the significant man-made features of the Town of Waterford, including data on existing land use and community facilities and services. Chapter V, "Existing Land Use Regulations," presents information pertaining to zoning, land subdivision control, and other Town and County ordinances. Chapter VI, "Land Use Plan," presents the community land use objectives upon which the land use plan was based, as well as the community land use needs to the design year 2010 based upon the forecast population and employment levels described in Chapter II. Chapter VII, "Plan Implementation," describes the legal instruments needed to implement the plan. Finally, a complete summary of the plan is provided in Chapter VIII.



## Chapter II

# POPULATION, HOUSEHOLDS, AND EMPLOYMENT INVENTORY, ANALYSIS, AND FORECAST

### INTRODUCTION

Information on the size, characteristics, and distribution of the resident population, households, and employment and on anticipated changes in these socio-economic factors over time is essential to the preparation of a sound land use plan. In the final analysis, the purpose of any local planning program is to benefit the resident population by maintaining and enhancing living conditions in the area. Moreover, some of the land use requirements and needs that a land use plan seeks to meet are directly related to the existing and probable future population, household, and employment levels of the area.

### HISTORIC AND FORECAST POPULATION, HOUSEHOLD, AND EMPLOYMENT LEVELS

The preparation of population, household, and employment forecasts for a community such as the Town of Waterford, when set in a dynamic region, is a particularly difficult task, fraught with uncertainties and subject to periodic revision as new information becomes available. The population, household, and employment forecasts presented in this land use plan were derived from regional and county forecasts reflecting alternative futures for the Southeastern Wisconsin Region developed by the Regional Planning Commission and used by the Commission in its regional and local planning efforts.

Three alternative future scenarios were prepared for the Region as a basis for the regional population, household, and employment forecasts: a low-growth scenario, an intermediate-growth scenario, and a high-growth scenario. Under each scenario, land use development patterns were developed which were believed to represent conditions that could occur in the Southeastern Wisconsin Region and the Town of Waterford over the next 20 years. Two of the aforementioned alternative scenarios for growth and development were selected as a basis for preparing the population, household, and employment forecasts for the Town: an intermediate-growth future scenario with a centralized development pattern and a high-growth future scenario with a decen-

tralized development pattern. These two scenarios were selected as a basis for preparing the forecasts for use in the preparation of the Town land use plan because it was believed that these scenarios represented a realistic range of population, household, and employment levels for the Town over the next 20 years.

#### Population

Historic and forecast population levels for the Region, Racine County, and the Town of Waterford are set forth in Table 1. A review of Table 1 indicates relatively rapid rates of population growth in the Region and Racine County during the period 1850 to 1930, compared to the somewhat erratic population changes experienced in the Town of Waterford during this same period. The significant decrease in the Town of Waterford population between 1900 and 1910 can be explained by the fact that a portion of the Town was incorporated as the Village of Waterford in 1906. Table 1 further indicates that from 1930 to 1990, the Town of Waterford experienced significantly higher rates of population growth than either the Region or the County. During this period, regional population levels increased from about 1,006,000 persons in 1930 to about 1,810,000 persons in 1990, an increase of over 804,000 persons, or about 80 percent, while Racine County increased from a level of 90,200 persons to 175,000 persons, an increase of 84,800 persons, or about 94 percent. Population levels in the Town of Waterford during this same time period increased from about 920 persons in 1930 to over 4,250 persons in 1990, an increase of about 3,300 persons, or more than 360 percent.

As indicated in Table 1 and shown in Figure 1, the recent trend toward higher rates of population growth for the Town of Waterford compared to the Region and Racine County may be expected to continue under both the intermediate-growth centralized regional plan and the high-growth decentralized alternative. Indeed, while the resident population of the Region and of the County are both envisioned to increase by about 6 percent under the intermediate-growth centralized regional plan, the adopted regional plan, and by about 28 percent under the high-growth decentralized alternative



Table 1

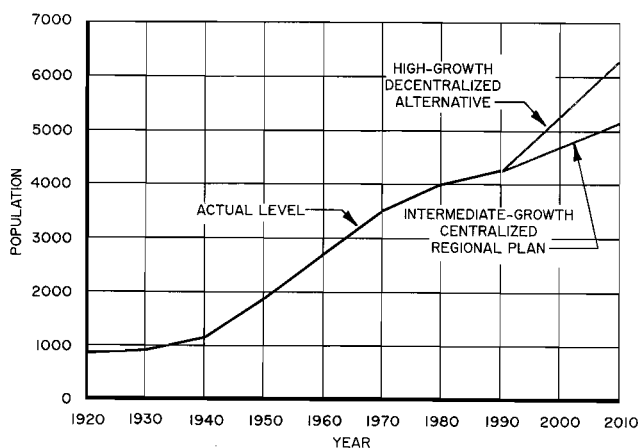
**HISTORIC AND FORECAST POPULATION LEVELS FOR THE  
REGION, RACINE COUNTY, AND THE TOWN OF WATERFORD: 1850-2010**

Year	Region			Racine County			Town of Waterford		
	Total Population	Change from Previous Decade		Total Population	Change from Previous Decade		Total Population	Change from Previous Decade	
		Number	Percent		Number	Percent		Number	Percent
1850	113,389	--	--	14,973	--	--	--	--	--
1860	190,409	77,020	67.9	21,360	6,387	42.7	1,450	1,450	--
1870	223,546	33,137	17.4	26,740	5,380	25.2	1,580	130	9.0
1880	277,119	53,573	24.0	30,922	4,182	15.6	1,451	-129	-8.2
1890	386,774	109,655	39.6	36,268	5,346	17.3	1,551	100	6.9
1900	501,808	115,034	29.7	45,644	9,376	25.9	1,564	13	0.8
1910	631,161	129,353	25.8	57,424	11,780	25.8	935	-629	-40.2
1920	783,681	152,520	24.2	78,961	21,537	37.5	861	-74	-7.9
1930	1,006,118	222,437	28.4	90,217	11,256	14.3	919	58	6.7
1940	1,067,699	61,581	6.1	94,047	3,830	4.2	1,153	234	25.5
1950	1,240,618	172,919	16.2	109,585	15,538	16.5	1,863	710	61.6
1960	1,573,614	332,996	26.8	141,781	32,196	29.4	2,681	818	43.9
1970	1,756,083	182,469	11.6	170,838	29,057	20.5	3,483	802	29.9
1980	1,764,796	8,713	0.5	173,132	2,294	1.3	3,984	501	14.4
1990	1,810,364	45,568	2.6	175,034	1,902	1.1	4,255	271	6.8
2010 Intermediate-Growth Centralized Regional Plan	1,911,000	100,636	5.6	186,000	10,966	6.3	5,160	905	21.3
2010 High-Growth Decentralized Alternative	2,316,100	505,736	27.9	224,700	49,666	28.4	6,330	2,075	48.8

Source: U. S. Bureau of the Census and SEWRPC.

Figure 1

**HISTORIC AND FORECAST POPULATION  
LEVELS FOR THE TOWN OF WATERFORD: 1920-2010**



Source: U. S. Bureau of the Census and SEWRPC.

thereto, the Town of Waterford is envisioned to grow by about 900 persons, or by about 21 percent, under the intermediate-growth centralized regional plan,

and by over 2,000 persons, or by almost 49 percent, under the high-growth decentralized alternative.<sup>1</sup>

Actual and forecast population levels by age group for the Region, Racine County, and the Town of Waterford are shown in Table 2. As shown in the table, under the high-growth alternative, the percentage of school-age population, ages five through 18, in Racine County relative to the total County population may be expected to decrease from its 1990 level of about 22 percent to about 21 percent by the year 2010. Similarly, the percentage of school-age population in the Town of Waterford compared to the total population in the Town may

<sup>1</sup>The State-estimated population level of the Town of Waterford, as of January 1, 1993, is 4,521 persons, an increase of approximately 6 percent, or about 90 persons per year, since 1990. This rate of increase is somewhat higher than the rate of increase of 45 persons per year envisioned under the intermediate-growth plan, but still less than the 100 persons per year rate of increase envisioned by the year 2010 under the high-growth plan.



Table 2

**EXISTING AND FORECAST POPULATION BY AGE GROUP IN THE  
REGION, RACINE COUNTY, AND THE TOWN OF WATERFORD: 1990 AND 2010**

Age Group	Region			
	1990		Alternative Forecast Range: 2010 <sup>a</sup>	
	Number	Percent	Number	Percent
Under 5 .....	138,286	7.6	113,132 to 150,540	5.9 to 6.5
5 to 14 .....	266,913	14.7	227,780 to 297,569	11.9 to 12.8
15 to 19 .....	123,160	6.8	127,647 to 161,653	6.7 to 7.0
20 to 64 .....	1,055,633	58.3	1,172,103 to 1,382,779	61.4 to 59.7
65 and Older .....	226,372	12.5	270,338 to 323,544	14.1 to 14.0
All Ages	1,810,364	100.0	1,911,000 to 2,316,085	100.0 to 100.0

Age Group	Racine County			
	1990		Alternative Forecast Range: 2010 <sup>a</sup>	
	Number	Percent	Number	Percent
Under 5 .....	13,664	7.8	12,013 to 15,028	6.5 to 6.7
5 to 14 .....	27,715	15.8	24,305 to 30,092	13.0 to 13.4
15 to 19 .....	11,560	6.6	13,323 to 16,138	7.2 to 7.2
20 to 64 .....	101,093	57.8	111,704 to 133,185	60.0 to 59.2
65 and Older .....	21,002	12.0	24,655 to 30,257	13.3 to 13.5
All Ages	175,034	100.0	186,000 to 224,700	100.0 to 100.0

Age Group	Town of Waterford			
	1990		Alternative Forecast Range: 2010 <sup>a</sup>	
	Number	Percent	Number	Percent
Under 5 .....	273	6.4	342 to 432	6.6 to 6.8
5 to 14 .....	724	17.0	638 to 811	12.4 to 12.8
15 to 19 .....	301	7.1	310 to 392	6.0 to 6.2
20 to 64 .....	2,561	60.2	3,124 to 3,780	60.6 to 59.8
65 and Older .....	396	9.3	743 to 910	14.4 to 14.4
All Ages	4,255	100.0	5,157 to 6,325	100.0 to 100.0

<sup>a</sup>The first number shown in the range represents the forecast under the intermediate-growth centralized regional plan; the second number represents the forecast under the high-growth decentralized alternative.

Source: U. S. Bureau of the Census and SEWRPC.

be expected to decline from about 24 percent in 1990 to about 19 percent by the year 2010 under this scenario. It should be noted that although the percentage relative to the total population may be expected to decrease, the total school age population is expected to increase. The proportion of population 65 years of age and older in Racine County compared to the total County population may be expected to gradually increase from its 1990 level of about 12 percent to about 14 percent by the year 2010 under the high-growth alternative, whereas

the proportion of this age group in the Town may be expected to increase substantially, from about 9 percent in 1990 to about 14 percent 2010. These figures suggest that the Town may need to address the needs of the steadily increasing elderly population.

#### Households

Historic and forecast household levels for the Region, Racine County, and the Town of Waterford are set forth in Table 3. Table 3 indicates that historic household formation rates in the Town of



Table 3

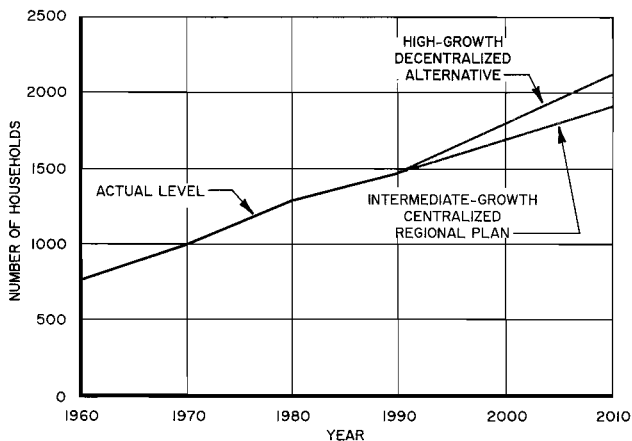
**HISTORIC AND FORECAST NUMBER OF HOUSEHOLDS IN THE  
REGION, RACINE COUNTY, AND THE TOWN OF WATERFORD: 1960-2010**

Year	Region			Racine County			Town of Waterford		
	Households	Change from Previous Decade		Households	Change from Previous Decade		Households	Change from Previous Decade	
		Number	Percent		Number	Percent		Number	Percent
1960	465,913	--	--	40,736	--	--	757	--	--
1970	536,486	70,573	15.1	49,796	9,060	22.2	992	235	31.0
1980	627,955	91,469	17.0	59,418	9,622	19.3	1,289	297	29.9
1990	676,107	48,152	7.7	63,736	4,318	7.3	1,469	180	14.0
2010 Intermediate-Growth Centralized Regional Plan	774,300	98,193	14.5	73,900	10,164	15.9	1,910	441	30.0
2010 High-Growth Decentralized Alternative	846,400	170,293	25.2	81,700	17,964	28.2	2,120	651	44.3

Source: U. S. Bureau of the Census and SEWRPC.

Figure 2

**HISTORIC AND FORECAST HOUSEHOLD  
LEVELS FOR THE TOWN OF WATERFORD: 1960-2010**



Source: U. S. Bureau of the Census and SEWRPC.

Waterford were significantly greater than such rates in either the Region or the County. From 1960 to 1990, the number of households in the Region increased by about 210,200, or about 45 percent, from about 465,900 in 1960 to about 676,100 in 1990. During the same period, household levels in Racine County increased by almost 23,000, or 56 percent, from about 40,700 in 1960 to about 63,700 in 1990. Household levels in the Town of Waterford during this period, however, increased by over 700, or 94 percent, from about 760 in 1960 to about 1,470 in 1990. The trend toward higher rates of growth in

the number of households for the Town of Waterford compared to the Region or the County may be expected to continue under both the intermediate-growth centralized regional plan and the high-growth decentralized alternative. As indicated in Table 3 and shown in Figure 2, the number of households in the Town of Waterford may be expected to increase by about 440, or about 30 percent, from a level of 1,470 in 1990 to about 1,910 in the year 2010, under the intermediate-growth centralized regional plan. The rate of growth in the number of households within the Region and the County would approximate 15 and 16 percent, respectively, under this plan. Under the high-growth decentralized alternative, households in the Town of Waterford would increase by about 650, or about 44 percent, from about 1,470 households in 1990 to 2,120 in the year 2010. This rate of increase surpasses the envisioned rates of increase of about 25 percent and about 28 percent for the Region and the County, respectively, under this alternative.

As indicated in Table 4, the increase in the number of households in the Region, Racine County, and in the Town of Waterford between 1960 and 1990 has been accompanied by a concomitant decrease in the number of persons per occupied housing unit. The most significant decline in the number of persons per housing unit occurred between 1970 and 1980, when household sizes in the Region, Racine County, and the Town of Waterford declined more than 12 percent. While the decline in the number of persons per occupied housing unit continued from 1980 to 1990, the rate of decline was significantly less



Table 4

**HISTORIC AND FORECAST POPULATION PER OCCUPIED HOUSING UNIT  
IN THE REGION, RACINE COUNTY, AND THE TOWN OF WATERFORD: 1960-2010**

Year	Region			Racine County			Town of Waterford		
	Population per Occupied Housing Unit	Change from Previous Decade		Population per Occupied Housing Unit	Change from Previous Decade		Population per Occupied Housing Unit	Change from Previous Decade	
		Number	Percent		Number	Percent		Number	Percent
1960	3.30	--	--	3.39	--	--	3.53	--	--
1970	3.20	-0.10	-3.0	3.35	-0.04	-1.2	3.51	-0.02	-0.6
1980	2.75	-0.45	-14.1	2.86	-0.49	-14.6	3.09	-0.42	-12.0
1990	2.62	-0.13	-4.7	2.70	-0.16	-5.6	2.90	-0.19	-6.1
2010 Intermediate-Growth Centralized Regional Plan	2.41	-0.21	-8.0	2.46	-0.24	-8.9	2.70	-0.20	-6.9
2010 High-Growth Decentralized Alternative	2.67	0.05	1.9	2.69	-0.01	-0.4	2.98	0.08	2.8

Source: U. S. Bureau of the Census and SEWRPC.

Table 5

**HISTORIC AND FORECAST EMPLOYMENT IN THE REGION,  
RACINE COUNTY, AND THE TOWN OF WATERFORD: 1970-2010**

Year	Region			Racine County			Town of Waterford		
	Employment	Change from Previous Decade		Employment	Change from Previous Decade		Employment	Change from Previous Decade	
		Number	Percent		Number	Percent		Number	Percent
1970	753,700	--	--	62,700	--	--	480	--	--
1980	884,200	130,500	17.3	76,100	13,400	21.4	540	60	12.5
1990	990,300	106,100	12.0	82,200	6,100	8.0	560	20	3.7
2010 Intermediate-Growth Centralized Regional Plan	1,095,000	104,700	10.6	92,100	9,900	12.0	605	45	8.0
2010 High-Growth Decentralized Alternative	1,251,600	261,300	26.4	112,600	30,400	37.0	700	140	25.0

Source: SEWRPC.

than in the previous decade. Table 4 also indicates that the Town of Waterford was marked by larger household sizes than either Racine County or the Region in each decade from 1960 to 1990. The decline in household size for the Region, Racine County, and the Town of Waterford may be expected to continue through the year 2010 under the intermediate-growth centralized regional plan. Under the high-growth decentralized alternative, modest increases in household sizes may be expected for the Region and the Town of Waterford, while relatively stable household sizes may be expected for Racine County.

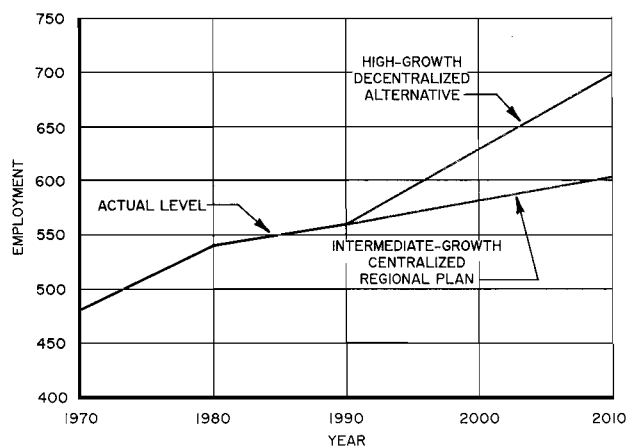
#### Employment

Historic and forecast employment in the Region, in Racine County, and in the Town of Waterford are set forth in Table 5. Employment levels, or "jobs," are enumerated at their location, and are thus often referred to in terms of "place of work" data. Enumeration of jobs does not distinguish between full- and part-time jobs or indicate whether or not the job is held by a resident of the jurisdiction in which the job is enumerated or by someone living outside of the jurisdiction. Table 5 indicates that from 1970 to 1990 the employment growth in the Town of Waterford was slower than that of the



**Figure 3**

**HISTORIC AND FORECAST EMPLOYMENT LEVELS FOR THE TOWN OF WATERFORD: 1970-2010**



Source: SEWRPC.

Region or in Racine County. Between 1970 and 1990, employment levels in the Region increased by 236,600, or by about 31 percent, from 753,700 in 1970 to 990,300 in 1990. During this same time, employment levels in Racine County increased by 19,500, or also by about 31 percent, from 62,700 in 1970 to 82,200 in 1990. Employment levels in the Town of Waterford during this period, however, increased by only 80 jobs, or 17 percent, from 480 in 1970 to 560 in 1990. The trend toward lower rates of employment growth for the Town of Waterford compared to those of the Region or Racine County may be expected to continue under both alternative scenarios. As indicated in Table 5 and shown in Figure 3, employment levels in the Town of Waterford may be expected to increase by about 8 percent under the intermediate-growth centralized regional plan, compared to the about 11 percent and 12 percent rates of increase estimated for the Region and Racine County, respectively, under this plan. Under the high-growth decentralized alternative, employment levels in the Town would increase by about 25 percent, compared to about 26 percent and about 37 percent for the Region and for Racine County, respectively, under this alternative.

## POPULATION AND HOUSING CHARACTERISTICS

This section of the chapter provides pertinent information concerning the characteristics of the resident population and housing units in the Town of

Waterford, including information on educational attainment, household and family income, residential building activity, value of owner-occupied housing units, characteristics of the housing stock, and occupation characteristics of the employed labor force in the Town.

Table 6 provides information on the educational attainment of persons 25 years and older in the Region, Racine County, and the Town of Waterford. Table 6 indicates that in 1990 the Town of Waterford had a smaller percentage of persons with less than a 12th grade education, about 18 percent, than the Region, 21 percent, or Racine County, about 24 percent. Almost 47 percent of the persons 25 years of age and older in the Town of Waterford had a high school diploma, compared to only 33 percent and 35 percent for the Region and Racine County, respectively. Approximately 35 percent of those persons 25 years old and older in the Town of Waterford had some college, or a degree, compared to 46 percent for the Region and 41 percent for Racine County.

Household and family income levels in the Region, Racine County, and the Town of Waterford in 1989 are set forth in Table 7. The table indicates that the 1989 mean household and family income levels for the Town of Waterford, as well as the 1989 median household and family income levels for the Town, in all cases exceeded the 1989 mean and median income levels of households and of families in the Region and in Racine County. Indeed, the 1989 mean household income of \$45,075 for Town of Waterford households was about \$6,500, or 17 percent, greater than the mean household income in the Region. The mean household income in the Town was also about \$6,900, or 18 percent, greater than the mean household income in Racine County. Similarly, the 1989 median household income of about \$39,000 for the Town of Waterford was about \$8,300, or about 20 percent, higher than the median household income in the Region. It was about \$6,300, or 19 percent, higher than the median household income level in Racine County.

Residential building activity in the Town of Waterford from 1960 to 1993, as evidenced by the number of single-family housing units authorized by zoning permits, is set forth in Table 8. As indicated in this table, 645 zoning permits for single-family housing units were authorized during this 33-year period, ranging from a low of two permits in 1981 to a high of 93 permits in 1993. Readily apparent is the significantly lower number of zoning permits author-



Table 6

**EDUCATIONAL ATTAINMENT OF PERSONS 25 YEARS OF AGE AND OLDER  
IN THE REGION, RACINE COUNTY, AND THE TOWN OF WATERFORD: 1990**

Education Level Attained	Region		Racine County		Town of Waterford	
	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
Less than Ninth Grade .....	87,026	7.6	9,567	8.7	95	3.5
Ninth to 12th Grade, No Diploma .....	154,773	13.4	16,554	15.0	391	14.4
High School Diploma (includes GED) ....	378,384	32.9	38,863	35.1	1,269	46.6
Some College, No Degree .....	222,708	19.3	20,276	18.3	374	13.7
Associate Degree .....	77,221	6.7	7,134	6.5	238	8.7
Bachelor's Degree .....	159,775	13.9	12,740	11.5	265	9.7
Graduate Degree .....	71,258	6.2	5,459	4.9	92	3.4
Total	1,151,145	100.0	110,593	100.0	2,724	100.0

Source: U. S. Bureau of the Census and SEWRPC.

Table 7

**HOUSEHOLD AND FAMILY INCOME IN THE REGION, RACINE COUNTY, AND THE TOWN OF WATERFORD: 1989**

Range	Region				Racine County				Town of Waterford			
	Households		Families		Households		Families		Households		Families	
	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
Less than \$5,000	24,879	3.7	11,757	2.5	2,117	3.3	1,179	2.5	41	2.8	26	2.2
\$5,000 to 9,999	63,191	9.3	26,032	5.5	5,543	8.7	2,308	4.9	25	1.7	6	0.5
\$10,000 to 12,499	29,465	4.3	13,128	2.8	2,886	4.5	1,426	3.0	40	2.7	14	1.2
\$12,500 to 14,999	26,147	3.9	12,932	2.7	2,369	3.7	1,280	2.7	35	2.4	15	1.3
\$15,000 to 17,499	29,003	4.3	15,821	3.3	2,836	4.4	1,639	3.5	60	4.1	19	1.6
\$17,500 to 19,999	27,707	4.1	15,741	3.3	2,545	4.0	1,639	3.5	35	2.4	44	3.7
\$20,000 to 22,499	30,503	4.5	17,930	3.8	2,862	4.5	1,896	4.0	45	3.1	24	2.0
\$22,500 to 24,999	26,473	3.9	17,313	3.7	2,428	3.8	1,685	3.6	50	3.4	48	4.1
\$25,000 to 27,499	30,020	4.4	19,757	4.2	2,647	4.1	1,877	4.0	27	1.8	23	1.9
\$27,500 to 29,999	24,880	3.7	17,590	3.7	2,355	3.7	1,794	3.8	60	4.1	48	4.1
\$30,000 to 32,499	30,327	4.5	21,487	4.5	3,070	4.8	2,420	5.1	91	6.2	73	6.2
\$32,500 to 34,999	24,118	3.6	18,614	3.9	2,354	3.7	1,845	3.9	110	7.5	93	7.9
\$35,000 to 37,499	27,610	4.1	20,837	4.4	2,715	4.3	2,298	4.8	87	5.9	87	7.3
\$37,500 to 39,999	23,380	3.5	18,537	3.9	2,365	3.7	2,022	4.3	47	3.2	39	3.3
\$40,000 to 42,499	27,513	4.1	22,056	4.7	2,776	4.4	2,334	4.9	65	4.4	58	4.9
\$42,500 to 44,999	21,174	3.1	18,038	3.8	2,190	3.4	1,923	4.1	59	4.0	44	3.7
\$45,000 to 47,499	22,261	3.3	18,788	4.0	2,138	3.4	1,928	4.1	89	6.0	79	6.7
\$47,500 to 49,999	18,646	2.8	16,070	3.4	1,789	2.8	1,547	3.3	85	5.8	72	6.1
\$50,000 to 54,999	34,933	5.1	30,624	6.5	3,564	5.6	3,192	6.7	95	6.4	75	6.3
\$55,000 to 59,999	26,800	3.9	23,617	5.0	2,545	4.0	2,341	4.9	85	5.8	76	6.4
\$60,000 to 74,999	52,685	7.8	47,097	10.0	4,915	7.7	4,475	9.3	145	9.9	131	11.1
\$75,000 to 99,999	31,826	4.7	28,301	6.0	2,918	4.6	2,625	5.5	59	4.0	55	4.6
\$100,000 to 124,999	10,308	1.5	9,347	2.0	906	1.4	812	1.7	17	1.2	17	1.4
\$125,000 to 149,999	4,091	0.6	3,777	0.8	326	0.5	308	0.7	7	0.5	7	0.6
\$150,000 or More	8,653	1.3	7,755	1.6	629	1.0	574	1.2	11	0.7	11	0.9
Total	676,593	100.0	472,946	100.0	63,788	100.0	47,367	100.0	1,470	100.0	1,184	100.0
Mean Income	\$38,541	--	\$44,401	--	\$38,129	--	\$43,058	--	\$45,075	--	\$48,856	--
Median Income	\$30,783	--	\$37,500	--	\$32,751	--	\$37,991	--	\$39,043	--	\$41,422	--

Source: U. S. Bureau of the Census and SEWRPC.



ized between 1979 and 1985, when the Region, as well as the Town of Waterford, was experiencing the effects of a severe economic recession. Recovery from this recession is also evidenced by the number of zoning permits authorized in 1992 and 1993, a total of 162 permits, or about 25 percent of the total number of permits authorized during the entire 33 years.

Table 9 sets forth the value of specified owner-occupied housing units in the Region, Racine County, and the Town of Waterford in 1990. The mean value of specified owner-occupied housing units in the Town of Waterford, about \$82,700, is about \$8,700, or about 12 percent, higher than the mean value of \$74,000 for Racine County and about \$3,100, or about 4 percent, lower than the mean value of \$85,700 for the Region. Almost 80 percent of the owner-occupied housing units in the Town of Waterford were valued between \$50,000 and \$125,000.

Selected housing characteristics for the Region, Racine County, and the Town of Waterford are set forth in Table 10. In 1990, about 89 percent of all housing units in the Town of Waterford were occupied, compared to 94 percent and 95 percent, respectively, for the Region and Racine County. This is primarily because a significantly higher portion of the total housing stock in the Town of Waterford, about 8 percent, has been classified as being in seasonal, recreational, or occasional use, compared to 2 percent and 1.4 percent of the housing units in the Region and Racine County, respectively. Renter-occupied housing units made up a significantly smaller percentage of the housing stock in the Town of Waterford, about 12 percent, than in the Region, about 37 percent, and Racine County, about 30 percent.

The numbers of employed persons 16 years of age or older by class of worker in the Region, Racine County, and the Town of Waterford in 1990 are set forth in Table 11. Employed persons, the "civilian labor force," are enumerated where they reside and these data are thus often referred to as "place of residence" employment data. This table indicates that the Town as well as Racine County and the Region have about 84 percent of the employed persons 16 years old and older classified as private wage and salary workers. When compared to the Region and Racine County, the Town of Waterford has a smaller proportion of employed persons classified as Federal, State, or local government workers and a higher proportion of employed per-

Table 8

**RESIDENTIAL BUILDING ACTIVITY  
IN THE TOWN OF WATERFORD: 1960-1993**

Year	Number of Single-Family Housing Units Authorized by Zoning Permit
1960	22
1961	13
1962	12
1963	19
1964	12
1965	18
1966	26
1967	15
1968	9
1969	9
1970	7
1971	17
1972	14
1973	14
1974	23
1975	4
1976	15
1977	6
1978	13
1979	8
1980	7
1981	2
1982	6
1983	14
1984	6
1985	7
1986	14
1987	16
1988 <sup>a</sup>	30
1989	29
1990	31
1991	45
1992	69
1993	93
Total	645
Annual Mean	19

<sup>a</sup>The Town of Waterford Sanitary District No. 1 was formed in 1972, with public sanitary sewer service becoming available in 1988.

Source: Racine County Planning and Zoning Department and SEWRPC.

sons classified as self-employed. Table 12 presents information for employed persons 16 years of age and older by occupation in the Region, Racine County, and the Town of Waterford. This



Table 9

**VALUE OF SPECIFIED OWNER-OCCUPIED HOUSING UNITS IN THE  
REGION, RACINE COUNTY, AND THE TOWN OF WATERFORD: 1990**

Range	Region		Racine County		Town of Waterford	
	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
Less than \$15,000	1,263	0.4	160	0.4	0	0.0
\$15,000 to 19,999	1,506	0.4	268	0.7	0	0.0
\$20,000 to 24,999	3,092	0.9	409	1.1	1	0.1
\$25,000 to 29,999	4,548	1.3	607	1.6	9	0.8
\$30,000 to 34,999	8,719	2.5	1,230	3.3	27	2.5
\$35,000 to 39,999	11,952	3.5	2,072	5.6	21	1.9
\$40,000 to 44,999	14,254	4.1	2,494	6.7	21	1.9
\$45,000 to 49,999	17,887	5.2	3,114	8.4	41	3.8
\$50,000 to 59,999	45,791	13.3	6,402	17.2	141	13.0
\$60,000 to 74,999	72,105	20.9	7,746	20.8	262	24.2
\$75,000 to 99,999	80,918	23.5	6,638	17.9	334	30.9
\$100,000 to 124,999	36,619	10.6	2,847	7.7	124	11.4
\$125,000 to 149,999	19,829	5.8	1,396	3.8	57	5.3
\$150,000 to 174,999	9,248	2.7	634	1.7	24	2.2
\$175,000 to 199,999	5,446	1.6	392	1.1	9	0.8
\$200,000 to 249,999	5,393	1.6	356	1.0	11	1.0
\$250,000 to 299,999	2,527	0.7	138	0.4	2	0.2
\$300,000 to 399,999	2,195	0.6	156	0.4	0	0.0
\$400,000 to 499,999	708	0.2	43	0.1	0	0.0
\$500,000 or More	638	0.2	32	0.1	0	0.0
Total	344,638	100.0	37,134	100.0	1,084	100.0
Mean Value	\$85,749	--	\$74,004	--	\$82,671	--

Source: U. S. Bureau of the Census and SEWRPC.

Table 10

**HOUSING CHARACTERISTICS OF THE REGION, RACINE COUNTY, AND THE TOWN OF WATERFORD: 1990**

Characteristic	Region		Racine County		Town of Waterford	
	Number	Percent	Number	Percent	Number	Percent
Occupied Housing Units						
Owner-Occupied .....	414,049	57.8	43,555	65.1	1,275	76.8
Renter-Occupied .....	262,058	36.5	20,181	30.1	194	11.7
Subtotal	676,107	94.3	63,736	95.2	1,469	88.5
Vacant Housing Units						
For Rent, For Sale, Rented or Sold but Not Occupied .....	20,126	2.8	1,672	2.5	28	1.7
For Seasonal, Recreational, or Occasional Use .....	13,690	1.9	951	1.4	135	8.1
Other Vacant .....	7,252	1.0	586	0.9	29	1.7
Subtotal	41,068	5.7	3,209	4.8	192	11.5
Total	717,175	100.0	66,945	100.0	1,661	100.0

Source: U. S. Bureau of the Census and SEWRPC.



Table 11

**EMPLOYED PERSONS 16 YEARS OLD AND OLDER BY CLASS OF WORKER  
IN THE REGION, RACINE COUNTY, AND THE TOWN OF WATERFORD: 1990**

Class	Region		Racine County		Town of Waterford	
	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
Private Wage and Salary Worker . . . . .	739,155	83.6	71,123	84.6	1,928	84.5
Federal Government Worker . . . . .	15,469	1.8	1,117	1.3	21	0.9
State Government Worker . . . . .	16,486	1.9	2,006	2.4	27	1.2
Local Government Worker . . . . .	69,574	7.9	5,784	6.9	135	5.9
Self-Employed Worker . . . . .	39,608	4.5	3,790	4.5	164	7.2
Unpaid Family Worker . . . . .	2,424	0.3	239	0.3	6	0.3
<b>Total</b>	<b>882,716</b>	<b>100.0</b>	<b>84,059</b>	<b>100.0</b>	<b>2,281</b>	<b>100.0</b>

Source: U. S. Bureau of the Census and SEWRPC.

Table 12

**EMPLOYED PERSONS 16 YEARS OLD AND OLDER BY OCCUPATION  
IN THE REGION, RACINE COUNTY, AND THE TOWN OF WATERFORD: 1990**

Class	Region		Racine County		Town of Waterford	
	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
Managerial and Professional Specialty						
Executive, Administrative, and Managerial . . . . .	103,680	11.7	8,645	10.3	168	7.4
Professional Specialty . . . . .	122,673	13.9	10,656	12.7	191	8.4
Technical, Sales, Administrative Support						
Technicians and Related Support . . . . .	31,301	3.5	2,846	3.4	78	3.4
Sales . . . . .	103,033	11.7	8,517	10.1	174	7.6
Administrative Support, including Clerical . . . . .	150,205	17.0	12,807	15.3	315	13.9
Service						
Private Household . . . . .	1,758	0.2	176	0.2	0	0.0
Protective Service . . . . .	12,724	1.4	1,171	1.4	7	0.3
Service, except Protective and Household . . . . .	98,458	11.2	9,662	11.5	265	11.6
Farming, Forestry, and Fishing . . . . .	9,288	1.1	1,260	1.5	106	4.6
Precision Production, Craft, Repair . . . . .	103,690	11.7	11,777	14.0	477	20.9
Operators, Fabricators, and Laborers						
Machine Operators, Assemblers, Inspectors . . . . .	80,106	9.1	9,410	11.2	319	14.0
Transportation and Material Moving . . . . .	32,522	3.7	3,395	4.0	114	5.0
Handlers, Equipment Cleaners, Helpers, Laborers . . . .	33,278	3.8	3,737	4.4	67	2.9
<b>Total</b>	<b>882,716</b>	<b>100.0</b>	<b>84,059</b>	<b>100.0</b>	<b>2,281</b>	<b>100.0</b>

Source: U. S. Bureau of the Census and SEWRPC.

table indicates that when compared to the Region and Racine County, the Town of Waterford has a lower proportion of the employed labor force classified as executive, administrative, and managerial; professional specialty; and sales personnel. Con-

versely, they have a significantly higher proportion of their employed labor force classified in farming, forestry, and fishing; precision production, craft, and repair; and machine operators, assemblers, and inspectors categories.



## SUMMARY

### Population, Household, and Employment Forecasts

The selection of forecast of population, household, and employment levels for use in the preparation of a land use plan for the Town of Waterford was based upon consideration of alternative population, household, and employment forecasts to the design year 2010 prepared by the Regional Planning Commission and used by the Commission in its regional and local planning efforts. Two alternative population, household, and employment forecasts were developed, one based upon the intermediate-growth centralized regional plan, the adopted regional plan, and one based on a high-growth decentralized alternative thereto. Town of Waterford population levels, which stood at 4,300 persons in 1990, are envisioned to increase by about 900 persons, or by about 21 percent, to a level of about 5,200 persons, under the intermediate-growth centralized regional plan and by about 2,000 persons, or by about 49 percent, to about 6,300 persons under the high-growth decentralized alternative. Household levels, which stood at about 1,500 in 1990, were envisioned to increase by about 400, or by about 30 percent, to a level of about 1,900, under the intermediate-growth centralized regional plan and envisioned to increase by about 600, or by about 44 percent, to a level of about 2,100, under the high-growth decentralized alternative. Employment levels in the Town of Waterford, which stood at about 560 jobs in 1990, were envisioned to increase by about 45, or by about 8 percent, to a level of 605, under the intermediate-growth centralized regional plan and increase by 140, or 25 percent, to a level of 700, under the high-growth decentralized alternative.

### Population and Housing Characteristics

Of the approximately 2,700 persons in the Town of Waterford 25 years of age and older, about 480, or 18 percent, have less than a 12th grade education; about 1,270, or 47 percent, have a high school diploma; and about 970, or 35 percent, have some college or a degree. The 1989 mean household and family income levels in the Town of Waterford, as well as 1989 median and household family income levels in the Town, exceeded the mean and median income levels of households and families in the Region and in Racine County. The 1989 mean

household income within the Town exceeded \$45,000, while mean family income in the Town totaled almost \$49,000. Similarly, 1989 median household income levels in the Town exceeded \$39,000, while median family income levels in the Town approximated \$41,400.

About 650 zoning permits for single-family housing units were authorized in the Town of Waterford during the 33-year period from 1960 to 1993, ranging from a low of two permits in 1981 to a high of 93 permits in 1993. The impact of the 1979 to 1985 severe economic recession was readily apparent in the Town when only about 50 permits were issued during those years. Building activity has rebounded since the recession, as evidenced by the number of zoning permits authorized in 1992 and 1993, a total of 162 permits, or about 25 percent of the total number of permits authorized during the 33-year period. The 1990 mean value of specified owner-occupied housing units in the Town of Waterford is about \$82,700, about \$8,700, or 12 percent, more than the mean value of owner-occupied housing units in Racine County and about \$3,100, or 4 percent, less than the mean value of owner-occupied housing units for the Region. About 1,470 housing units, or about 89 percent of the 1,660 housing units in the Town of Waterford, are classified as occupied. A relatively high percentage, about 8 percent of the total housing units in the Town, are classified as seasonal, recreational, or for occasional use. Renter-occupied housing comprises about 12 percent of the total housing stock, significantly lower than the proportion of renter-occupied housing units for the Region or Racine County.

Of the 2,280 employed persons 16 years of age or older in the Town, about 1,930, or about 85 percent, are classified as private wage and salaried workers. When compared to the Region and Racine County, the Town of Waterford has a lower proportion of its employed labor force classified as executive, administrative, and managerial; professional specialty; and sales. The Town also has a significantly higher proportion of their employed labor force classified in farming, forestry, and fishing; precision production, craft, and repair; and machine operators, assemblers, and inspectors categories.



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## Chapter III

### NATURAL RESOURCE BASE INVENTORY AND ANALYSIS

#### INTRODUCTION

The conservation and wise use of the natural resource base is vital to the sound physical, social, and economic development of an area and to the continued ability of that area to provide a pleasant and habitable environment for life. Any meaningful land use planning effort must, therefore, recognize the existence of a limited natural resource base to which urban and rural development must be properly adjusted in order that the resource base is properly maintained and protected and in order that serious environmental problems are avoided. A sound evaluation and analysis of the natural resource base is, therefore, particularly important to planning for the physical development of an area.

This chapter, then, presents the results of an inventory and analysis of the natural resource base of the Town of Waterford. Included is descriptive information regarding soils, topography, water resources, vegetation, wildlife habitat, and natural areas. Also included is a description of items closely related to the natural resource base, including outdoor recreation sites and historic sites. This chapter concludes with a description of the environmental corridors that have been identified within the Town. These corridors represent concentrations of the most important remaining elements of the natural resource base.

#### SOILS

Soil properties exert a strong influence on the use of land and on the impacts of changes in land use. Soils are an irreplaceable resource and mounting pressures upon land are constantly making this resource more and more valuable. A need exists in any land use planning program to examine how soils can best be used and managed.

In order to assess the significance of the diverse soils found in Southeastern Wisconsin, the Regional Planning Commission in 1963 negotiated a cooperative agreement with the U. S. Soil Conservation Service under which detailed operational soil surveys were completed for the entire seven-county Region. The survey reports were published in SEWRPC

Planning Report No. 8 and in soil survey reports subsequently prepared by the Soil Conservation Service.<sup>1</sup> The surveys have provided sound, definitive data on the physical, chemical, and biological properties of the soils and have provided interpretations of the soil properties for planning, engineering, agricultural, and resource conservation purposes.

#### General Soil Groups

Map 6 provides an overview of the pattern of soils that exists within the Town. As shown, seven broad groups of soils, or soil associations, occur with the area: the Casco-Rodman association, Fox-Casco association, Hebron-Montgomery-Aztalan association, Houghton-Palms association, Miami association, Morley-Beecher-Ashkum association, and Warsaw-Plano association. The Fox-Casco association, Miami association, and the Morley-Beecher-Ashkum associations predominate.

The Fox-Casco association consists of well-drained soils that have a clay loam and silty clay loam subsoil. The soils are nearly level to rolling and occur mainly on terraces and hills. Most of this association is well suited for farming, although the steeper slopes may erode if cropped.

The Miami association consists of well-drained soils over a silty clay loam and clay loam subsoil. The soils are rolling to moderately steep and occur on low ridges and hills. Most of this association is well suited for farming, although the steeper slopes may erode if cropped. The Miami and the Fox-Casco association are the predominant associations in the western two-thirds of the Town.

The Morley-Beecher-Ashkum association consists of well-drained to poorly drained soils with a silty clay or silty clay loam subsoil. The soils are nearly level to moderately steep. The soils in this association are also generally well suited for farming. The Morley-

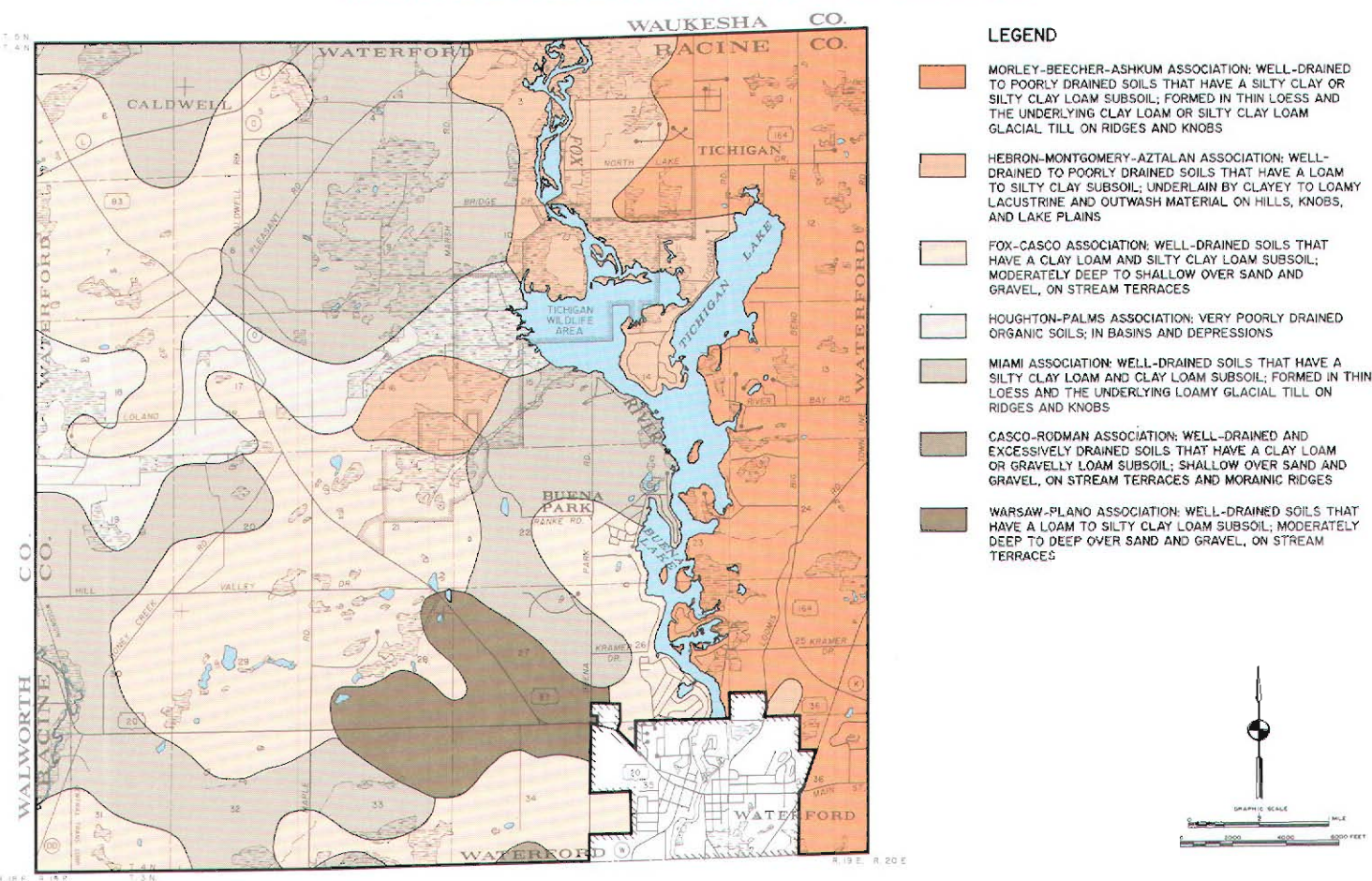
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<sup>1</sup>SEWRPC Planning Report No. 8, *Soils of Southeastern Wisconsin*, 1966; and U. S. Department of Agriculture, Soil Conservation Service, *Soil Survey of Kenosha and Racine Counties, Wisconsin*, 1970.



Map 6

# GENERAL SOIL ASSOCIATIONS IN THE TOWN OF WATERFORD



Source: SEWRPC.

Beecher-Ashkum association is predominant in the eastern portion of the Town.

## Soil Suitability Interpretations

The soil surveys provide important information regarding the suitability of the land for various urban and rural uses. Interpreting soil surveys in this manner involves evaluating those characteristics of a soil which influence the particular use and predicting the kinds and degrees of limitations those soil properties and qualities, taken together, are likely to impose on the land use in question. Of particular importance in preparing a land use plan for the Town of Waterford are suitability interpretations for residential development with public

sanitary sewer service, for residential development with onsite sewage disposal systems, for agriculture, and for probable sand and gravel deposits.

Soil Suitability for Residential Development Served by Public Sanitary Sewers: In view of the fact that public sanitary sewer service is provided within a portion of the Town, it is important to consider the suitability of soils for residential development served by public sanitary sewers. The detailed soil survey indicates that about 10.7 square miles, or about 31 percent of the total area of the Town, are covered by soils that have severe limitations for residential development with public sanitary sewer service, or stated differently, are poorly suited for



residential development of any kind. Concentrations of these soils occur in the central and west central portions of the Town and along the Fox River. Smaller concentrations of these soils are widely dispersed and intermixed with other soils in other areas of the Town (see Map 7).

#### Soil Suitability for Onsite Sewage Disposal Systems:

The suitability of soils in the Town for onsite sewage disposal systems is indicated on Maps 8 and 9. Map 8 indicates suitability for conventional onsite sewage disposal systems; Map 9 indicates suitability for mound sewage disposal systems. The ratings are expressed in terms of the likelihood of meeting the criteria governing the siting of onsite sewage disposal systems set forth in Chapter ILHR 83 of the Wisconsin Administrative Code. On these maps, areas shown as "suitable" have a high probability of meeting the code requirements for the system concerned; areas shown as "unsuitable" have a high probability of not meeting the requirements. Areas shown as "undetermined" include soils having a range of characteristics which spans the applicable administrative code criteria, so that no classification can be assigned without more detailed field investigation. It should be noted that Maps 8 and 9 are intended to illustrate the overall pattern of soil suitability for onsite sewage disposal systems. Detailed site investigations based upon the requirements of Chapter ILHR 83 are essential to the determination of whether or not the soils on any specific tract of land are suitable for development served by onsite sewage disposal systems.

As indicated in Table 13, about 15.4 square miles, or about 45 percent of the Town, are covered by soils classified as unsuitable for conventional onsite sewage disposal systems; about 10.0 square miles, or about 29 percent, are classified as suitable; and about 6.8 square miles, or 20 percent, are covered by soils of undetermined suitability. The remaining 2.1 square miles, or 6 percent of the Town, consist of areas for which, because of disturbed condition, no soil survey data are available or consist of surface water. From further review of Table 13 and from a comparison of Maps 8 and 9, it is evident that the development of the mound sewage disposal systems and other alternative systems has significantly increased the area of the Town which may be able to accommodate development served by onsite sewage disposal systems.

#### Agricultural Soil Suitability

Much of the area of the Town is covered by soils which are well suited for agricultural use. Soil

suitability for agricultural use within the undeveloped portion of the Town, according to the U. S. Soil Conservation Service classification system, is shown on Map 10. National prime farmland is defined as land that is well suited for the production of food, feed, forage, fiber, and oilseed crops. Such farmland has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops economically when properly treated and managed. Farmland of statewide importance includes land in addition to national prime farmland which is of statewide importance for the production of food and fiber. Areas identified on Map 10 as national prime farmland encompass 18.1 square miles, or 53 percent of the undeveloped area of the Town. Areas identified as farmland of statewide importance encompass 4.5 square miles, or 13 percent of the undeveloped area of the Town.

#### Soil Suitability for Sand and Gravel

Sand and gravel are an important economic resource which should be carefully husbanded. The regional soil survey provides an indication of the location of potential commercially workable sand and gravel deposits. The regional soil survey rates soil mapping units as "probable" or "improbable" sources of sand and gravel. The rating is intended only to show the probability of the presence of material of suitable quality in workable quantities. As shown on Map 11, about 11.1 square miles, or 32 percent of the total area of the Town, are covered by soil mapping units which have been identified as probable sources of sand or gravel. These areas occur primarily in the western and south-central areas of the Town.

## TOPOGRAPHIC AND TOPOGRAPHY-RELATED FEATURES

The topography, or the relative elevation of the land surface, in the Town of Waterford is determined, generally, by the configuration of the bedrock geology and by the overlying glacial deposits. The topography of the Town, shown in 10-foot interval contours, is depicted on Map 12. As shown, the topography ranges from nearly level in certain areas to gently rolling or even hilly in other areas.

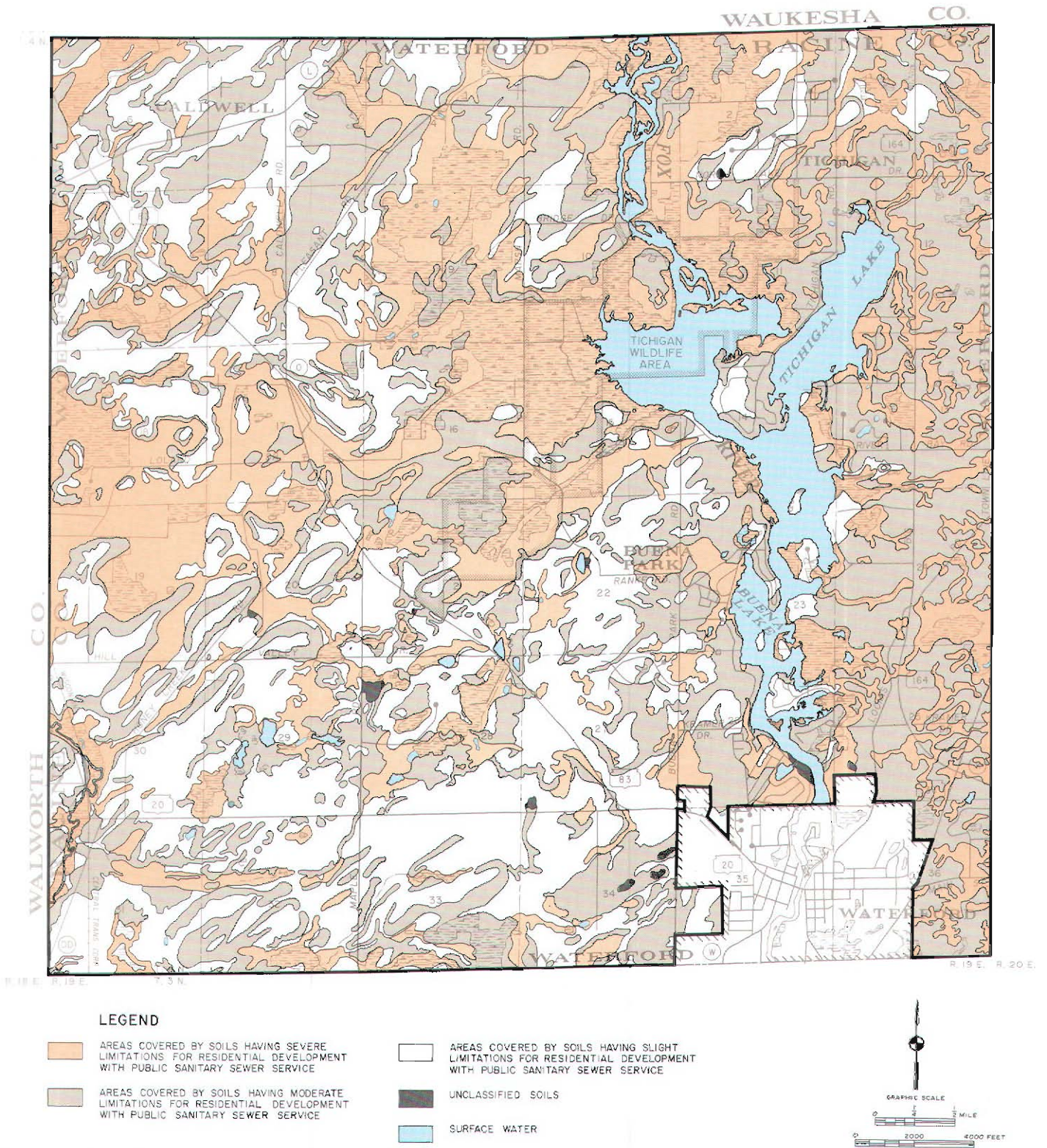
#### Slopes

Slope is an important determinant of the land uses practicable on a given parcel of land. Lands with steep slopes are generally poorly suited for urban development and for most agricultural purposes and, therefore, should be maintained in natural



Map 7

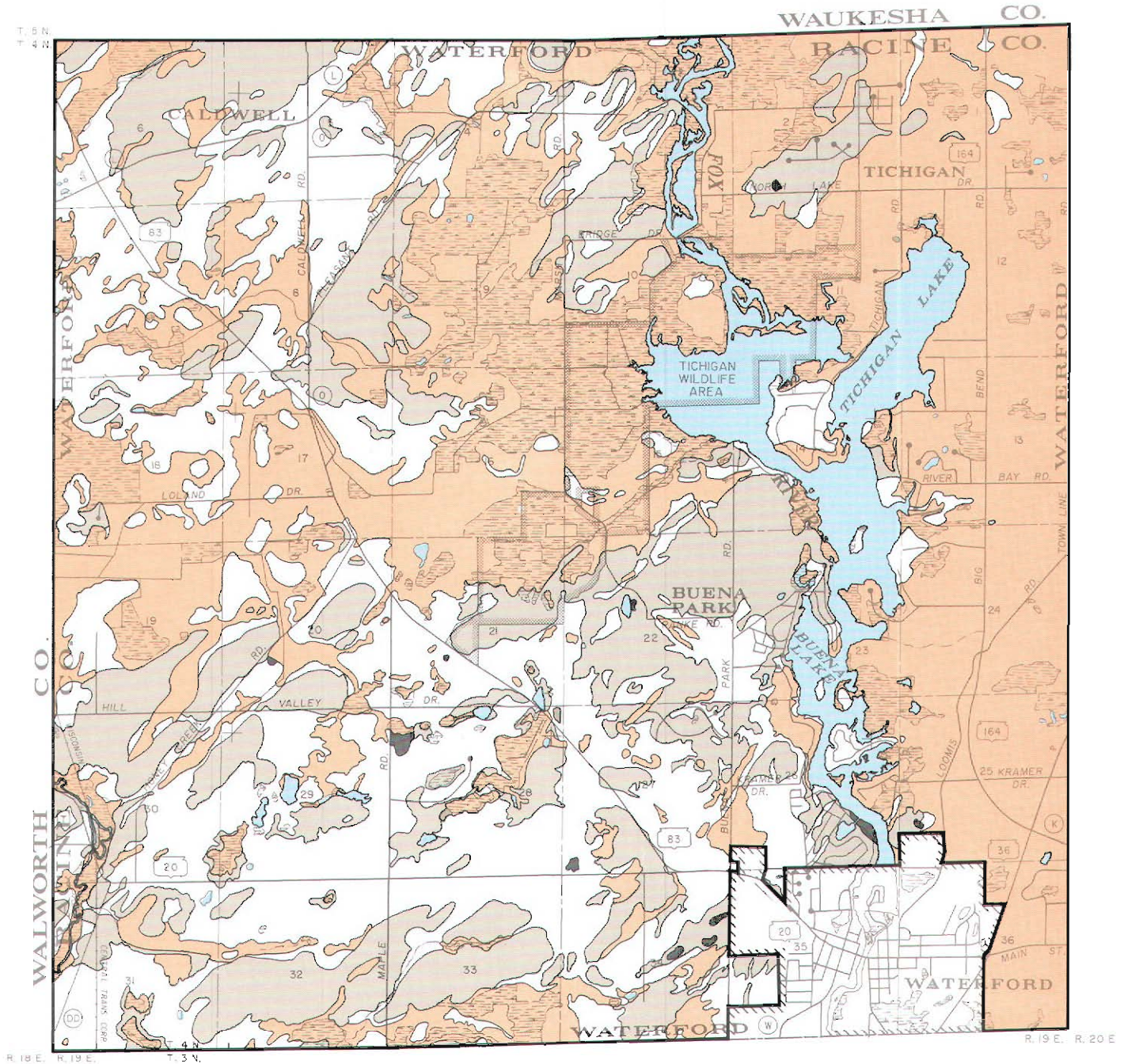
**SUITABILITY OF SOILS FOR RESIDENTIAL DEVELOPMENT WITH  
PUBLIC SANITARY SEWER SERVICE IN THE TOWN OF WATERFORD**





Map 8

**SUITABILITY OF SOILS FOR CONVENTIONAL ONSITE SEWAGE DISPOSAL SYSTEMS IN  
THE TOWN OF WATERFORD UNDER CURRENT ADMINISTRATIVE RULES: FEBRUARY 1991**

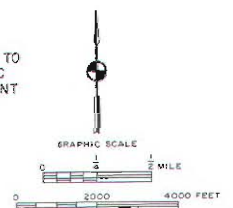


**LEGEND**

- UNSUITABLE: AREAS COVERED BY SOILS HAVING A HIGH PROBABILITY OF NOT MEETING THE CRITERIA OF CHAPTER ILHR 83 OF THE WISCONSIN ADMINISTRATIVE CODE GOVERNING CONVENTIONAL ONSITE SEWAGE DISPOSAL SYSTEMS
- UNDETERMINED: AREAS COVERED BY SOILS HAVING A RANGE OF CHARACTERISTICS AND/OR SLOPES WHICH SPAN THE CRITERIA OF CHAPTER ILHR 83 OF THE WISCONSIN ADMINISTRATIVE CODE GOVERNING CONVENTIONAL ONSITE SEWAGE DISPOSAL SYSTEMS SO THAT NO CLASSIFICATION CAN BE ASSIGNED
- SUITABLE: AREAS COVERED BY SOILS HAVING A HIGH PROBABILITY OF MEETING THE CRITERIA OF CHAPTER ILHR 83 OF THE WISCONSIN ADMINISTRATIVE CODE GOVERNING CONVENTIONAL ONSITE SEWAGE DISPOSAL SYSTEMS

- OTHER: AREAS CONSISTING FOR THE MOST PART OF DISTURBED LAND FOR WHICH NO INTERPRETIVE DATA ARE AVAILABLE
- SURFACE WATER

NOTE: ONSITE INVESTIGATIONS ARE ESSENTIAL TO THE DETERMINATION OF WHETHER ANY SPECIFIC TRACT OF LAND IS SUITABLE FOR DEVELOPMENT SERVED BY A CONVENTIONAL ONSITE SEWAGE DISPOSAL SYSTEM.

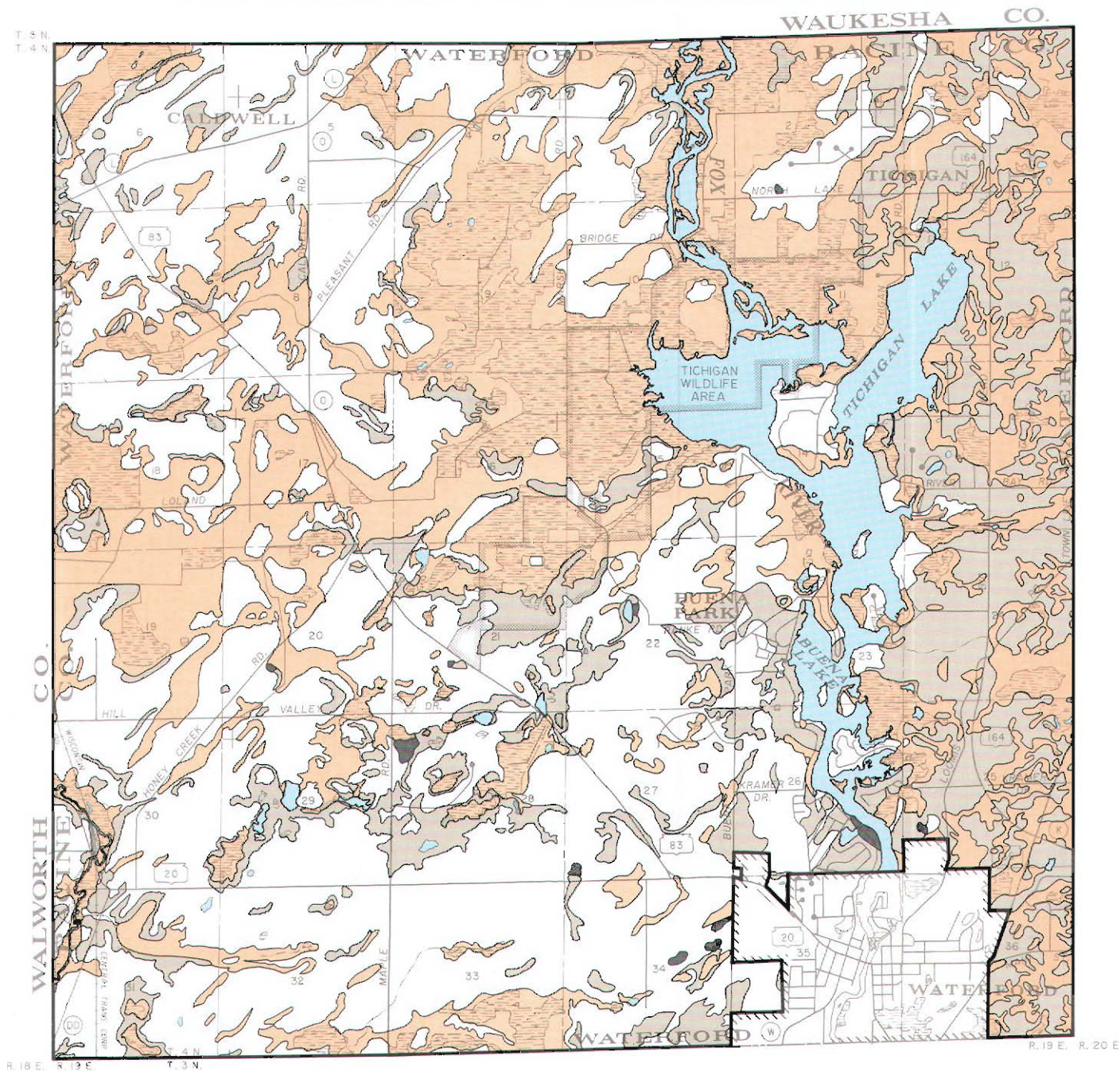


Source: U. S. Soil Conservation Service and SEWRPC.



Map 9

**SUITABILITY OF SOILS FOR MOUND SEWAGE DISPOSAL SYSTEMS IN THE  
TOWN OF WATERFORD UNDER CURRENT ADMINISTRATIVE RULES: FEBRUARY 1991**

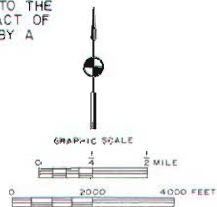


**LEGEND**

- UNSUITABLE: AREAS COVERED BY SOILS HAVING A HIGH PROBABILITY OF NOT MEETING THE CRITERIA OF CHAPTER ILHR 83 OF THE WISCONSIN ADMINISTRATIVE CODE GOVERNING MOUND SEWAGE DISPOSAL SYSTEMS
- UNDETERMINED: AREAS COVERED BY SOILS HAVING A RANGE OF CHARACTERISTICS AND/OR SLOPES WHICH SPAN THE CRITERIA OF CHAPTER ILHR 83 OF THE WISCONSIN ADMINISTRATIVE CODE GOVERNING MOUND SEWAGE DISPOSAL SYSTEMS SO THAT NO CLASSIFICATION CAN BE ASSIGNED
- SUITABLE: AREAS COVERED BY SOILS HAVING A HIGH PROBABILITY OF MEETING THE CRITERIA OF CHAPTER ILHR 83 OF THE WISCONSIN ADMINISTRATIVE CODE GOVERNING MOUND SEWAGE DISPOSAL SYSTEMS

- OTHER: AREAS CONSISTING FOR THE MOST PART OF DISTURBED LAND FOR WHICH NO INTERPRETIVE DATA ARE AVAILABLE
- SURFACE WATER

NOTE: ONSITE INVESTIGATIONS ARE ESSENTIAL TO THE DETERMINATION OF WHETHER ANY SPECIFIC TRACT OF LAND IS SUITABLE FOR DEVELOPMENT SERVED BY A MOUND SEWAGE DISPOSAL SYSTEM





cover for water quality protection, wildlife habitat, and erosion control purposes. Lands with less severe slopes may be suitable for certain agricultural uses, such as pasture, and for certain urban uses, such as care-fully designed low-density residential use. Lands which are gently sloping or nearly level are best suited for agricultural production and for medium-density residential, commercial, or industrial uses. It should also be noted that slope is directly related to water runoff and erosion hazards and, therefore, the type and extent of both urban and rural land uses should be carefully adjusted to the slope of the land. In general, slopes of 12 percent or greater should be considered unsuitable for urban development and most types of agricultural uses and, thus, should for the most part be maintained in essentially natural, open uses. As shown on Map 13, areas having a slopes of 12 percent or greater encompass about 2.6 square miles, or 8 percent of the total area of the Town.

### Scenic Overlooks

Scenic overlooks are defined as areas that provide a panoramic or picturesque view. There are two important components of a scenic overlook: the picturesque view itself, which usually consists of a diversity of natural or cultural features, and the vantage point or viewpoint from which to observe the diversity of features. In identifying the scenic overlooks in the Town of Waterford, three basic criteria were applied: 1) a variety of features to be viewed should exist harmoniously in a natural or rural landscape, 2) there should be one dominant or particularly interesting features, such as a river or lake, which serves as a focal point of the picturesque view, and 3) the viewpoint should present an unobstructed observation point from which the variety of natural features can be seen.

A special inventory of scenic overlooks meeting these criteria was conducted. Using the best available topographic maps, areas with a relief greater than 30 feet and a slope of 12 percent or greater were identified. Areas of steep slope with a ridge of at least 200 feet in length and a view of at least three features, including surface water, wetlands, woodlands, or agricultural lands within approximately one-half mile of the ridge were identified as scenic overlooks. In the Town of Waterford, 17 overlooks were identified, as shown on Map 12.

**Table 13**

### **SOIL SUITABILITY FOR ONSITE SEWAGE DISPOSAL SYSTEMS IN THE TOWN OF WATERFORD**

Classification	Conventional Systems		Mound Systems	
	Square Miles	Percent of Town	Square Miles	Percent of Town
Unsuitable . . . . .	15.4	44.9	11.6	33.8
Undetermined . . . .	6.8	19.8	5.8	16.9
Suitable . . . . .	10.0	29.2	14.8	43.2
Other <sup>a</sup> . . . . .	2.1	6.1	2.1	6.1
<b>Total</b>	<b>34.3</b>	<b>100.0</b>	<b>34.3</b>	<b>100.0</b>

<sup>a</sup>Includes disturbed areas, for which no soil survey data are available, and surface water.

Source: SEWRPC.

### **WATERSHEDS, SUBWATERSHEDS, AND SUBBASINS**

The Town of Waterford lies entirely within the Fox River watershed, which is a part of the Mississippi River drainage system. The portion of the Fox River watershed in the Town can be divided into several subwatersheds, as shown on Map 14. These include the Honey Creek, the Middle Fox River, and the Wind Lake Drainage Canal subwatersheds. The subwatersheds, in turn, may be further subdivided into individual drainage areas, termed subbasins, also displayed on Map 14.

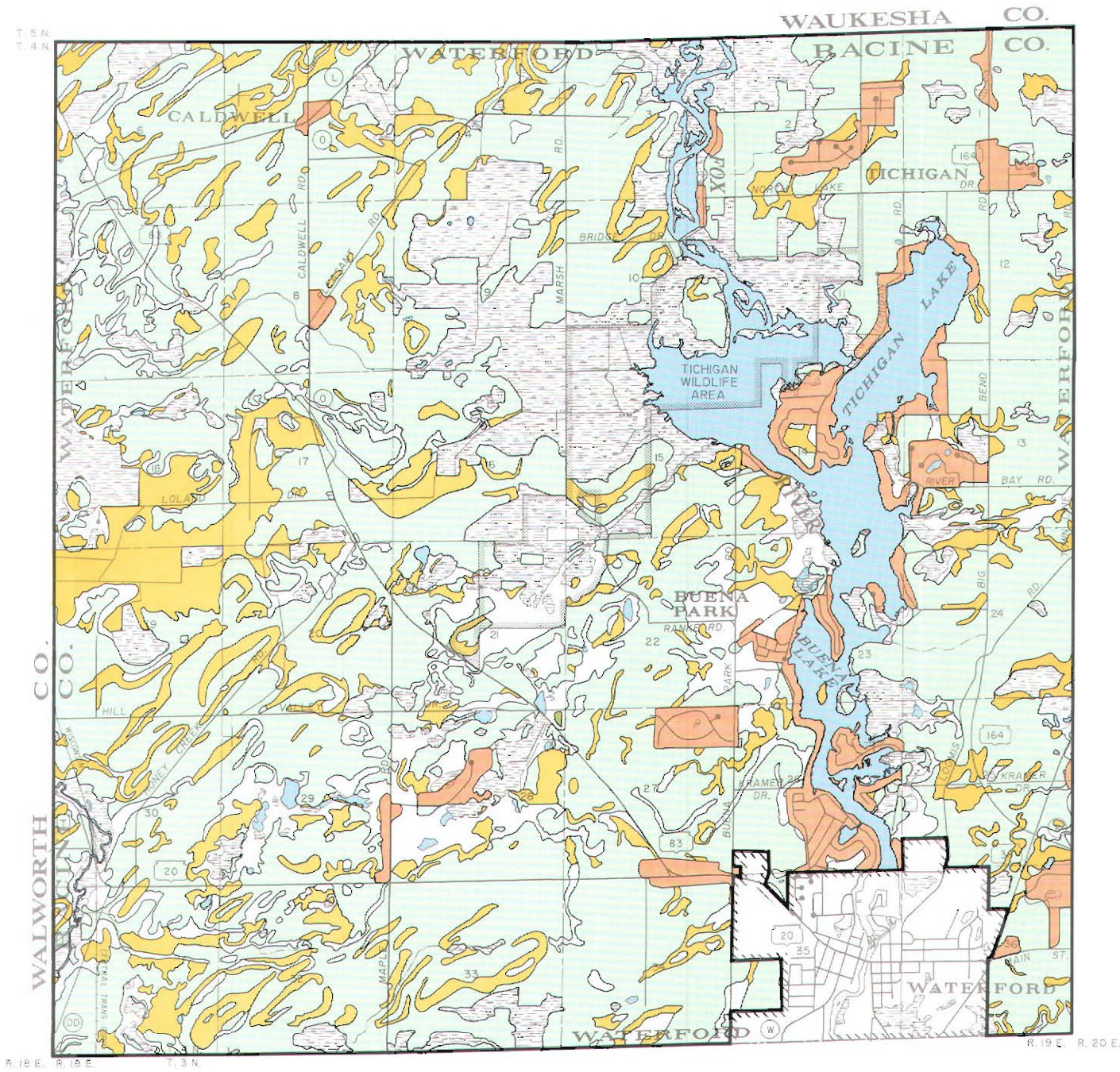
### **SURFACE WATER RESOURCES**

Surface water resources, consisting of lakes, rivers, and streams with their associated floodlands, form a particularly important element of the natural resource base of the Town of Waterford. Surface water resources influence the physical development of an area, provide recreational opportunities, and enhance the aesthetic quality of the area. Lakes and streams constitute a focal point of water-related recreational activities; provide an attractive setting for properly planned residential development; and, when viewed in the context of the total landscape, greatly enhance the aesthetic quality of the environment. Unfortunately, lakes and streams are readily



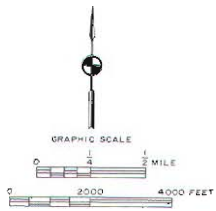
Map 10

AGRICULTURAL SOIL CAPABILITY IN THE TOWN OF WATERFORD



LEGEND

- NATIONAL PRIME FARMLAND
- FARMLAND OF STATEWIDE IMPORTANCE
- DEVELOPED URBAN AREA: 1990
- SURFACE WATER

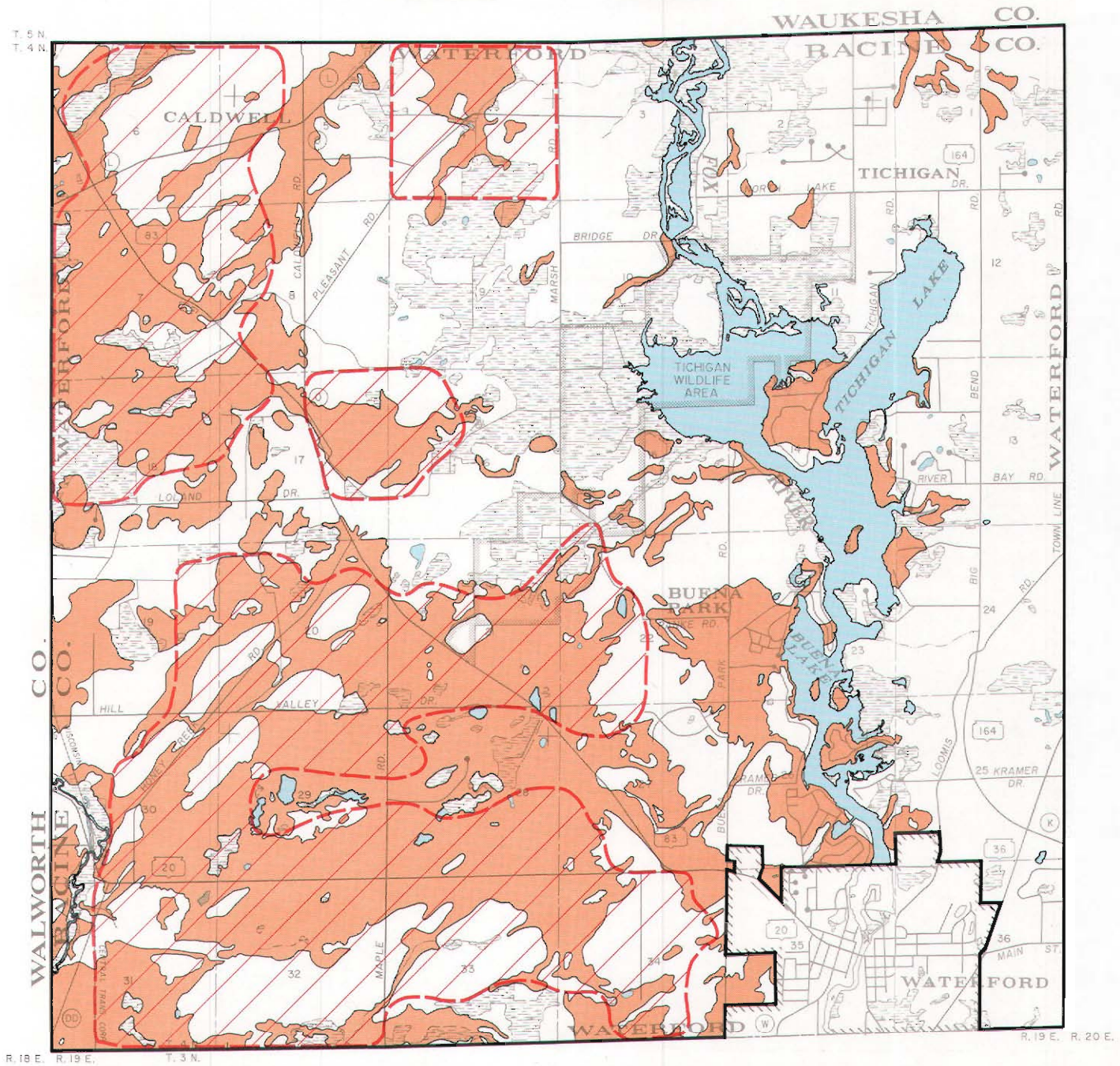


Source: U. S. Soil Conservation Service and SEWRPC.



Map 11

**AREAS WHERE SOIL SURVEY DATA INDICATE THAT POTENTIAL SAND AND GRAVEL DEPOSITS MAY OCCUR IN THE TOWN OF WATERFORD**

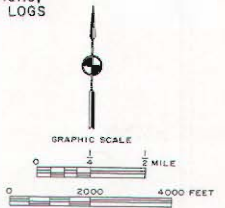


**LEGEND**

- AREA OF POTENTIAL SAND AND GRAVEL DEPOSIT
- SURFACE WATER



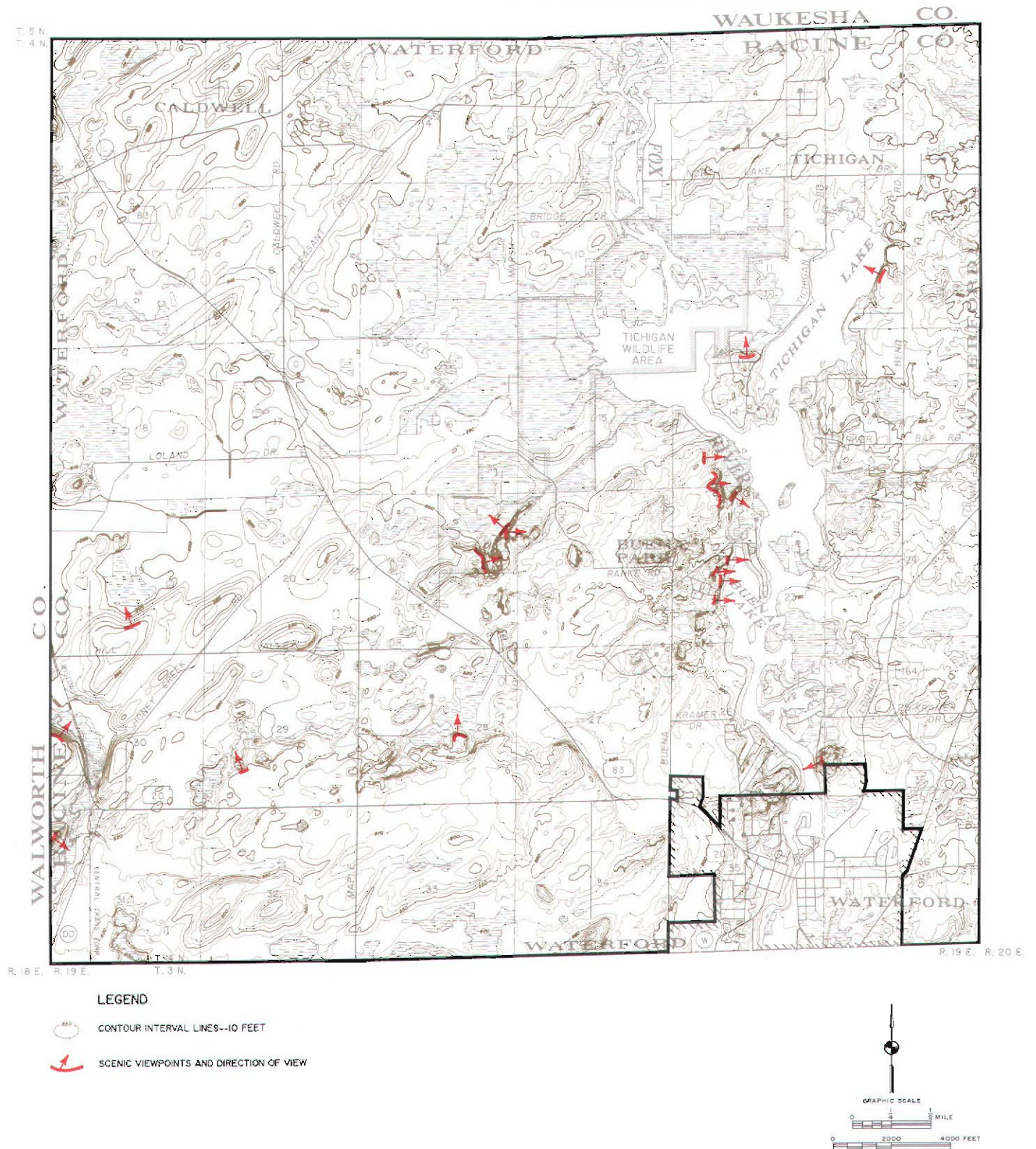
GENERAL AREA IDENTIFIED BY FOUR EXISTING SAND AND GRAVEL OPERATORS IN THE TOWN - TEWS COMPANY, B.R. AMON & SONS INC., ALBY MATERIALS, AND PAYNE & DOLAN, INC. - AS HAVING SIGNIFICANT POTENTIAL FOR COMMERCIAL OPERATIONS; IDENTIFICATION BASED ON PRIVATELY HELD BORING LOGS, PRIVATE BACKHOE EXCAVATIONS, VISUAL OBSERVATIONS OF ERODED AREAS, AND PRIVATE WELL LOGS





Map 12

TOPOGRAPHY AND SCENIC VIEWPOINTS IN THE TOWN OF WATERFORD

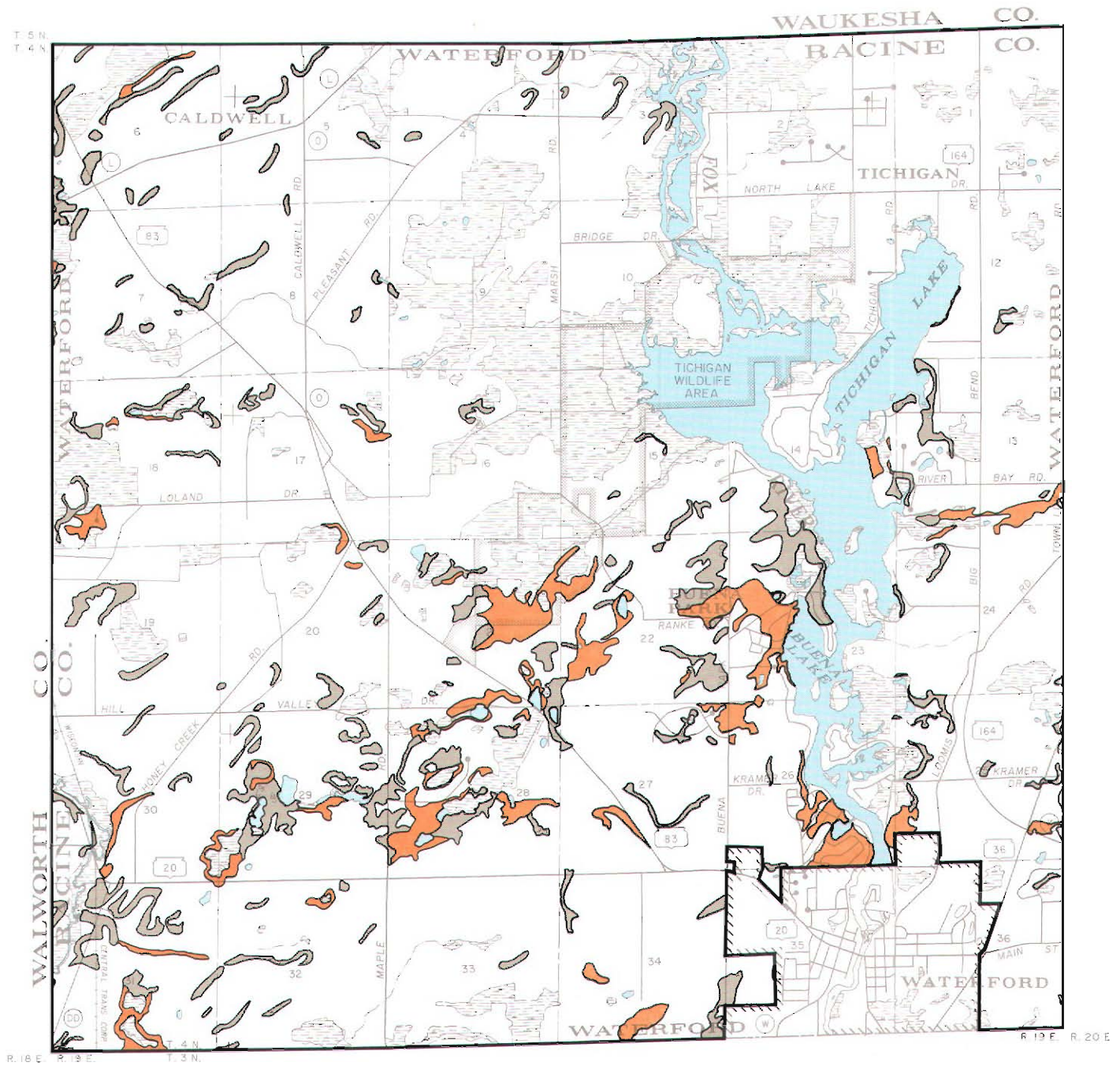


Source: SEWRPC.



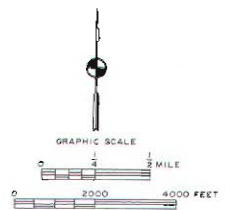
Map 13

SLOPE ANALYSIS FOR THE TOWN OF WATERFORD



LEGEND

- SOILS HAVING SLOPES RANGING FROM 0 TO 12 PERCENT
- SOILS HAVING SLOPES RANGING FROM 12 TO 20 PERCENT
- SOILS HAVING SLOPES OF 20 PERCENT OR MORE
- SURFACE WATER

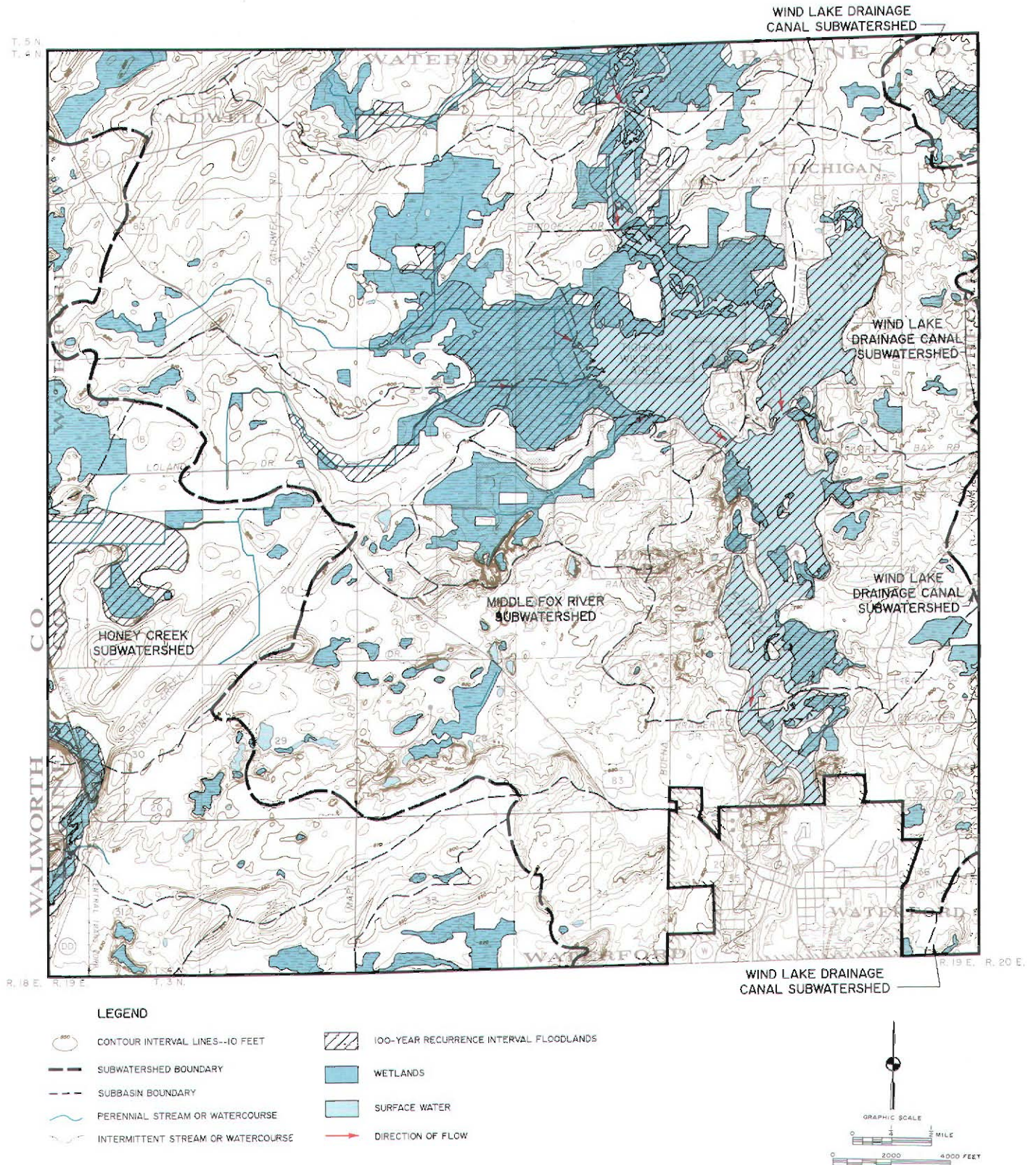


Source: U. S. Soil Conservation Service and SEWRPC.



Map 14

SURFACE DRAINAGE, WETLANDS, FLOODLANDS, AND WATERSHED FEATURES IN THE TOWN OF WATERFORD



Source: SEWRPC.



susceptible to degradation through improper rural, as well as urban, land use development and management. Water quality can be degraded by excessive pollutant loads, including nutrient loads, from malfunctioning and improperly located onsite sewage disposal systems, urban runoff, runoff from construction sites, and careless agricultural practices. The water quality of lakes and streams may also be adversely affected by the excessive development of riverine areas combined with the filling of peripheral wetlands, which removes valuable nutrient and sediment traps and adds nutrient and sediment sources.

### Lakes

Lakes have been classified by the Regional Planning Commission as being either major or minor. Major lakes have 50 acres or more of surface water area; minor lakes have less than 50 acres of surface water area. Major lakes located in the Town include Buena Lake, a 241-acre lake, and Tichigan Lake, an 892-acre lake, both of which are directly connected to the Fox River Impoundment located in the eastern portion of the Town.

As shown on Map 14, there are, in addition, a limited number of smaller, generally unnamed lakes and ponds in the Town.

### Streams

Perennial streams are defined as watercourses that maintain, at a minimum, a small continuous flow throughout the year except under unusual drought conditions. The perennial streams in the Town of Waterford are shown on Map 14. Perennial streams in the Town include the Fox River, which traverses the eastern portion of the Town in a generally north-south direction, and Honey Creek, which is tributary to the Fox River.

### Floodlands

The floodlands of a river or stream are the wide, gently sloping areas contiguous to, and usually lying on both sides of, a river or stream channel. Rivers and streams occupy their channels most of the time. However, during even minor flood events, stream discharges increase markedly, and the stream channels may not be able to contain and convey all of the flow. As a result, water levels increase and the river or stream spreads laterally over the floodlands. The periodic flow of a river onto its floodlands is a normal phenomenon and, in the absence of costly structural flood control works, will occur regardless of whether or not urban development exists in the floodland.

For planning and regulatory purposes, floodlands are normally defined as those areas, excluding the stream channel, subject to inundation by the 100-year recurrence interval flood event. This is the event that may be expected to be reached or exceeded in severity once in every 100 years, or, stated another way, there is a 1 percent chance of this event being reached or exceeded in severity in any given year. Floodland areas are generally not well suited to urban development, not only because of the flood hazard, but also because of the presence of high water tables and soils poorly suited to urban uses. The floodland areas, however, generally contain important elements of the natural resource base, such as woodlands, wetlands, and wildlife habitat, thus constituting prime locations for needed park and open space areas. Every effort should be made to discourage incompatible urban development on floodlands while encouraging compatible park and open space use.

The identification of the 100-year recurrence interval flood hazard areas in the Town is important for the preparation of a sound land use plan. Floodland delineations were prepared by the Regional Planning Commission as part of its Fox River watershed planning program, the findings and recommendations of which are set forth in SEWRPC Planning Report No. 12, A Comprehensive Plan for the Fox River Watershed. In addition to this study, the Federal Emergency Management Agency (FEMA) has identified additional areas in the Town that may be subject to flood hazards. The FEMA study was conducted for flood insurance purposes. Floodland delineations in the Town of Waterford currently identified by the Regional Planning Commission and FEMA are shown on Map 14. These floodlands encompass an area of about 5.2 square miles, or about 15 percent of the Town, and are located along the main stem of the Fox River and Honey Creek and associated with Long Lake in the Town of Norway.

### Wetlands

Wetlands are areas in which the water table is at, near, or above the land surface and which are characterized by both hydric soils and by the growth of sedges, cattails, and other wetland vegetation. Wetlands generally occur in depressions and near the bottom of slopes, particularly along lakeshores and stream banks, and on large land areas that are poorly drained. Wetlands may, however, under certain conditions, occur on slopes and even on hilltops.



Wetlands perform an important set of natural functions. The functions include support of a wide variety of desirable, and sometimes unique, forms of plant and animal life; stabilization of lake levels and streamflows; entrapment and storage of plant nutrients in runoff, thus reducing the rate of enrichment of surface waters and weed and algae growth; contribution to the atmospheric oxygen and water supplies; reduction in stormwater runoff by providing areas for floodwater impoundment and storage; protection of shorelines from erosion; entrapment of soil particles suspended in runoff and reduction in stream sedimentation; provision of groundwater recharge and discharge areas; and provision of the population with opportunities for certain scientific, education, and recreational pursuits.

Wetlands have severe limitations for residential, commercial, and industrial development. Generally, these limitations are due to the erosive character, high compressibility and instability, low bearing capacity, and high shrink-swell potential of wetland soils, as well as the associated high water table. If ignored in land use planning and development, those limitations may result in flooding, wet basements, unstable foundations, failing pavement, and excessive infiltration of clear water into sanitary sewers. In addition, there are significant onsite preparation and maintenance costs associated with the development of wetland soils, particularly as related to roads, foundations, and public utilities.

Recognizing the important natural functions of wetlands areas, continued efforts should be made to protect these areas by discouraging costly, both in monetary and environmental terms, wetland draining, filling, and urbanization.

Map 14 shows the location of wetlands existing in the Town of Waterford in 1990. These areas encompass about 4.7 square miles, or 14 percent of the Town. The largest concentrations of wetlands occur along the Fox river and in the areas adjacent to the Tichigan Wildlife Area.

## WOODLANDS

Under good management, woodlands can serve a variety of beneficial functions. In addition to contributing to clean air and water and regulating surface water runoff, the woodlands contribute to the maintenance of a diversity of plant and animal life in association with human life. Unfortunately,

woodlands, which required a century or more to develop, can be destroyed through mismanagement in a comparatively short time. The destruction of woodlands, particularly on hillsides, can contribute to stormwater runoff, the siltation of lakes and streams, and the destruction of wildlife habitat. Woodlands can and should be maintained for their total values: for scenery, wildlife habitat, open space, education, recreation, and air and water quality protection.

Woodlands comprised 3.0 square miles, or 9 percent of the Town of Waterford, in 1990. The distribution of these woodlands is shown on Map 15. As shown, woodlands occur in a scattered pattern throughout the Town.

## PRAIRIE VEGETATION

Prairies are open, generally treeless, areas in the landscape that are dominated by native grasses. Such areas have important ecological and scientific values. The only known prairie within the Town of Waterford occurs along the Fox River on a site known as the Tichigan Wet Prairie. This site is a relatively small, approximately 15-acre, wet prairie remnant located within the Tichigan Wildlife Area in the northeast one-quarter of U. S. Public Land Survey Section 10 in the north-central portion of the Town.

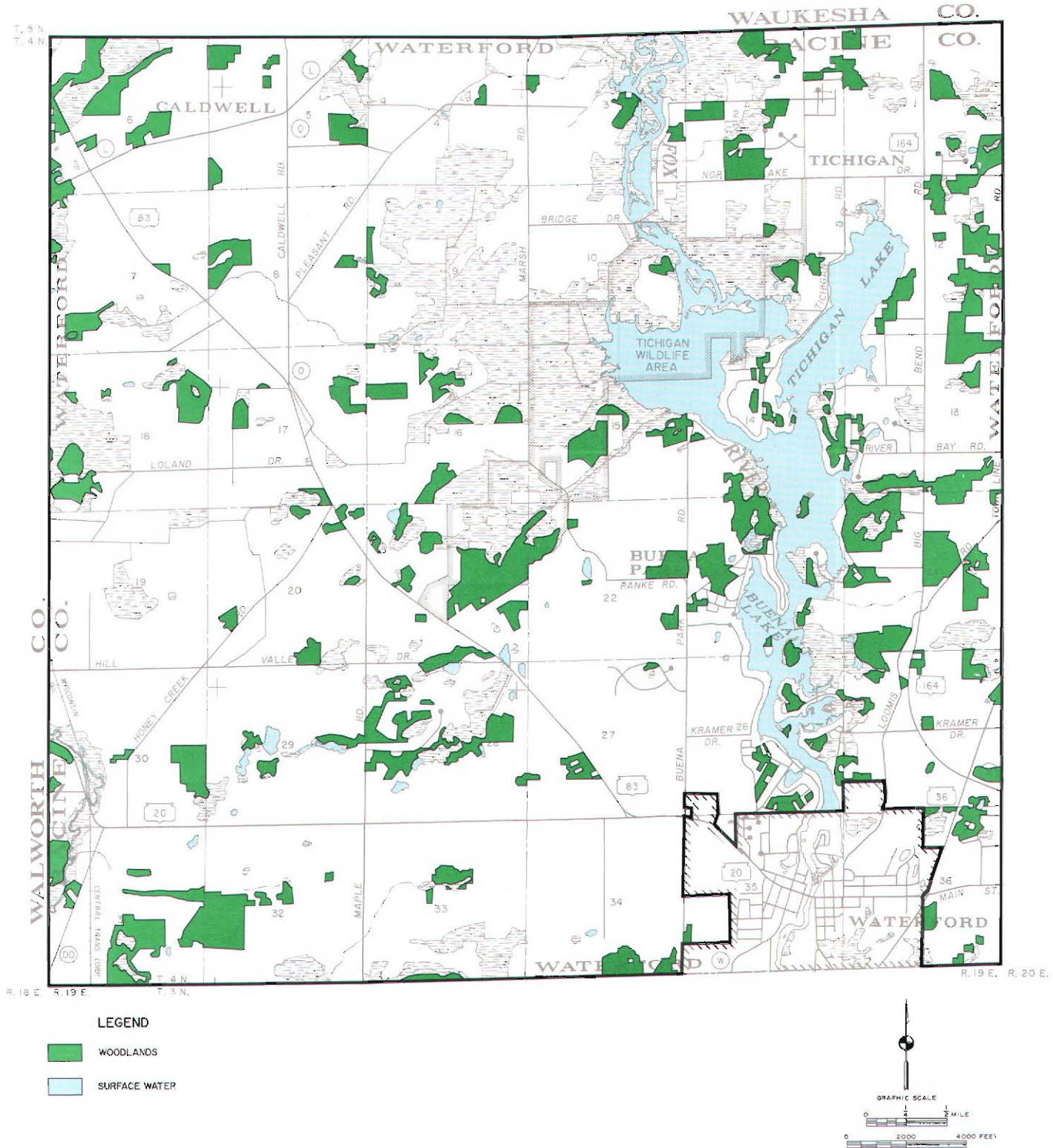
## WILDLIFE HABITAT AREAS

Wildlife in the Town of Waterford includes both game and nongame species such as rabbit, squirrel, and woodchuck; predators such as mink, fox, and raccoon; game birds, including pheasant; and such marsh furbearers as muskrat and beaver. Other species include songbirds, marsh birds, and shorebirds. In addition, waterfowl are present and white-tailed deer are found in many areas. The spectrum of wildlife species has undergone significant alterations since settlement of the area by Europeans. These alterations were the direct result of the changes in land use and wildlife habitat made by the European settlers, beginning with the clearing of forests and the draining of wetlands for agricultural purposes, and, in some areas, ending with the development of intensive urban land uses. This process of change, which began in the early 19th century, is continuing today.



Map 15

WOODLANDS IN THE TOWN OF WATERFORD: 1990



Source: SEWRPC.



In 1985, the Regional Planning Commission and the Wisconsin Department of Natural Resources cooperatively conducted an inventory of wildlife habitat in Southeastern Wisconsin. As part of that inventory, areas were evaluated in terms of the diversity of animal species, the territorial requirements of those species, the composition and structure of existing vegetation, proximity to other wildlife habitat areas, and level of disturbance by man's activities. As part of the inventory, three classes of wildlife habitat were identified: 1) Class I, which consists of areas that contain a good diversity of wildlife, that are of sufficient size to meet all of the habitat requirements for each species, and that are generally located in proximity to other wildlife habitat areas; 2) Class II, which consists of wildlife habitat areas lacking one of the three criteria necessary for a Class I designation; and 3) Class 3, which consists of those wildlife habitat areas that are generally remnant in nature and that lack two of the three criteria necessary for Class I designation.

As shown on Map 16, wildlife habitat areas in the Town of Waterford generally occur in association with existing surface water, wetland, and woodland resources. In 1990, wildlife habitat areas covered about 10.1 square miles, or 29 percent of the Town. Class I wildlife habitat areas, the most significant of the remaining wildlife habitat, comprised 4.9 square miles, or 48 percent of the identified wildlife habitat. The largest concentrations of Class I wildlife habitat occurred within, and adjacent to, the Tichigan Wildlife Area. Class II wildlife habitat comprised 4.0 square miles, or 40 percent of the total, while Class III wildlife habitat comprised 1.2 square miles, or 12 percent. As shown on Map 16, Class II and Class III wildlife habitat occurs in scattered locations throughout the Town of Waterford.

## NATURAL AREAS

Natural areas, as defined by the Wisconsin Scientific Areas Preservation Council, are tracts of land or water so little modified by human activity, or sufficiently recovered from the effects of such activity, that they contain intact native plant and animal communities believed to be representative of the landscape before European settlement. Natural areas sites are classified into one of four categories: State scientific area, natural area of Statewide or greater significance, natural areas of countywide or regional significance, and natural areas of local

significance. Classification of an area into one of these four categories is based upon consideration of the diversity of plant and animal species and community types present; the structure and integrity of the native plant or animal community; the extent of disturbance from human activity, such as logging, agricultural use, and pollution; the commonness of the plant and animal community; any unique natural feature; the size of the site; and the educational value.

A total of eight such sites have been identified in the Town of Waterford. These sites, which together encompass about 740 acres, or just over 3 percent of the Town, are shown on Map 17 and described in Table 14.

## RESOURCE-RELATED ELEMENTS

Park and open space sites and historic sites, while not strictly defined as part of the natural resource base, are closely linked to the underlying natural resource base. Park and open space sites and historic sites may be enhanced by the presence of natural resource features; conversely, the commitment of land to park and open space use contributes to the preservation of existing resource features.

### Existing Outdoor Recreation and Open Space Sites

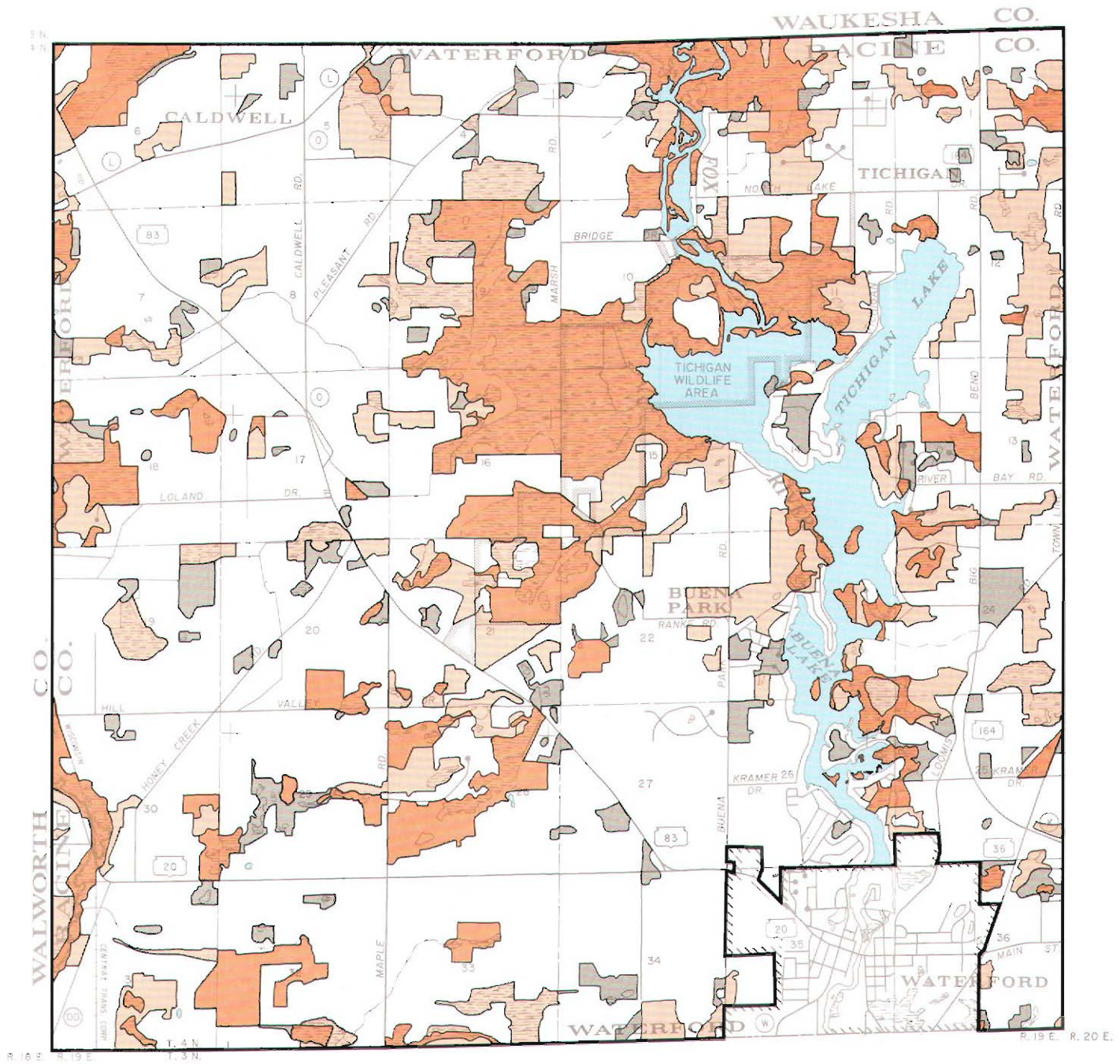
Existing public and nonpublic outdoor recreation and open space sites in the Town of Waterford are shown on Map 18 and described in Table 15. The Tichigan Wildlife Area, owned and managed by the Wisconsin Department of Natural Resources, constitutes the largest public open space site in the Town. The Tichigan Wildlife Area encompasses 1,221 acres, or just over 5 percent of the total area of the Town. It encompasses much of the wetlands adjacent to the Fox River in the central portion of the Town.

The Town of Waterford maintains two park and open space sites. As shown on Map 18, the first site, Caldwell Fire Station No. 2, is a 13-acre site located in the western portion of the Town. A softball diamond is provided at the site. The second site is the Tichigan Volunteer Fire Department grounds, a six-acre site located in the northeastern portion of the Town. A softball and a little league diamond are provided at the site. In addition, as shown on Map 18 and in Table 15, a variety of private recreation sites, many of which provide access to Tichigan Lake, are available to serve residents of the Town.



Map 16

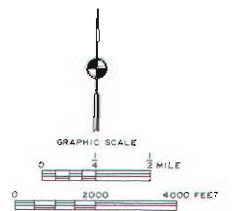
WILDLIFE HABITAT AREAS IN THE TOWN OF WATERFORD: 1990



LEGEND

- CLASS I
- CLASS II
- CLASS III
- SURFACE WATER

NOTE: WILDLIFE HABITAT WITHIN THE FOX RIVER IMPOUNDMENT CONSISTS OF DEEP MARSH AREAS HAVING SUBMERGENT, EMERGENT FLOATING, AND FREE-FLOATING VEGETATION.

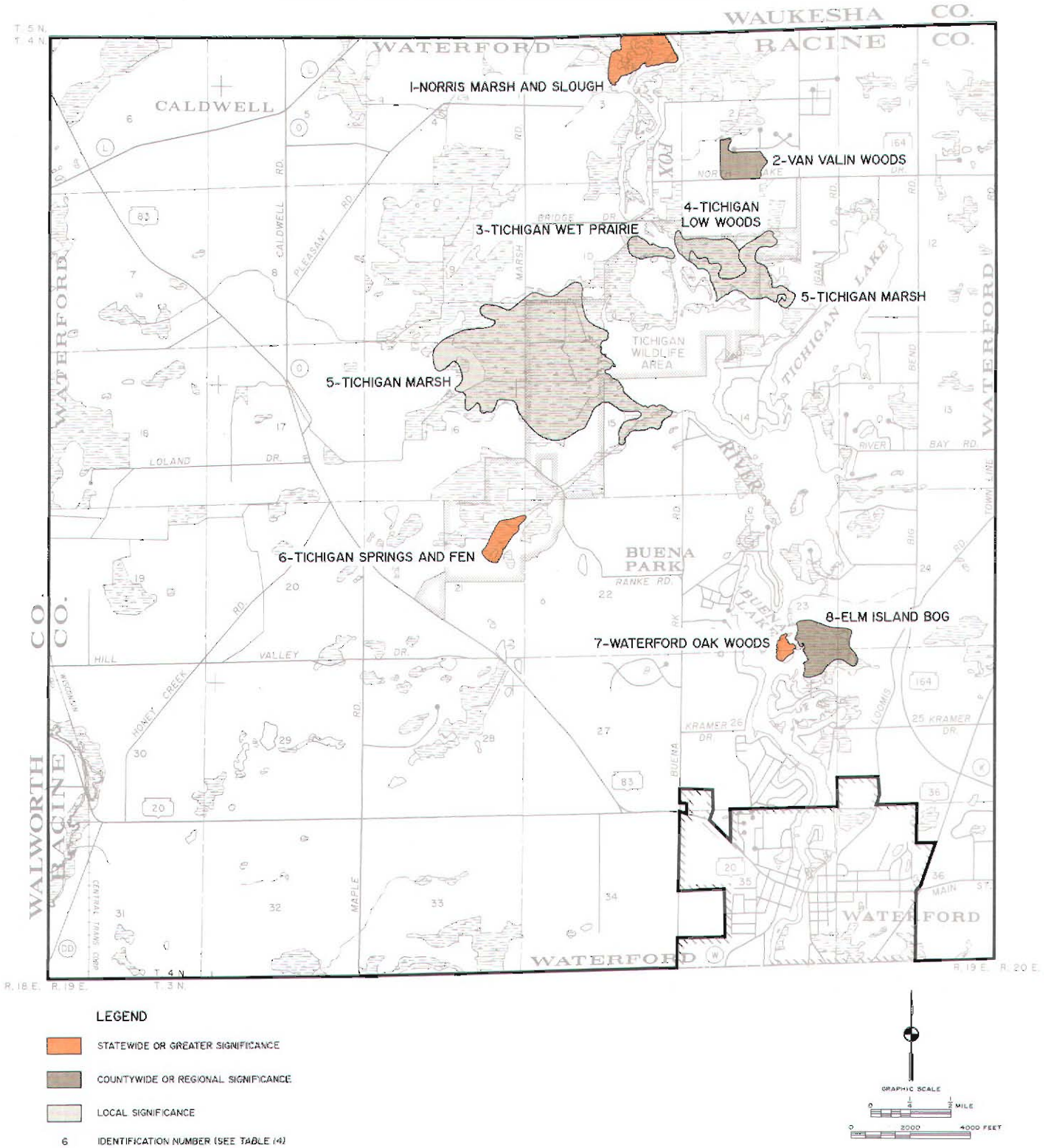


Source: SEWRPC.



Map 17

NATURAL AREAS IN THE TOWN OF WATERFORD: 1990



Source: SEWRPC.



Table 14

**NATURAL AREAS IN THE TOWN OF WATERFORD: 1993**

Number on Map 17	Classification	Area (acres)	U. S. Public Land Survey Section	Existing or Proposed Park or Open Space Site
1	Natural area of statewide or greater significance	50	3	Norris Marsh and Slough
2	Natural area of countywide or regional significance	32	2	Van Valin Woods
3	Natural area of local significance	15	10	Tichigan Wildlife Area, wet prairie
4	Natural area of local significance	34	11	Tichigan Wildlife Area, low woods
5	Natural area of local significance	517	9, 10, 11, 15, 16	Tichigan Wildlife Area, marsh
6	Natural area of statewide or greater significance	23	21	Tichigan Wildlife Area, springs and fen
7	Natural area of statewide or greater significance	13	23, 26	Waterford Oak Woods
8	Natural area of countywide or regional significance	54	23, 24, 25, 26	Elm Island Bog
--	Total	738	--	--

Source: Wisconsin Department of Natural Resources, and SEWRPC.

### Recreational Trails and Rustic Roads

Racine County has developed biking facilities throughout the County, including both bike trails and bike routes in the Town of Waterford. As shown on Map 18, a one-mile segment of the five-mile "off-the-road" Racine County Bicycle Trail is located in the southeastern portion of the Town and a nine-mile segment of the 100-mile "on-the-road" Racine County bicycle route is located in the northern and central portions of the Town. In addition, two segments of designated rustic roads are located within the Town. Rustic roads are scenic, lightly traveled country roads designated for the leisurely enjoyment of hikers, bikers, and motorists. As shown on Map 18, a three-mile segment of the six-mile rustic road R2 is located on Maple Avenue, in the southern portion of the Town, and a one-half-mile segment of the four-mile rustic road R5 is located on Loomis Road, in the eastern portion of the Town.

### Historic Sites

A number of inventories and surveys of historic sites have been conducted by various units and agencies

of government in the Southeastern Wisconsin Region. The results of these inventories and surveys, on file at such agencies as the Wisconsin State Historical Society, indicate that there are more than 14,000 historic sites in the seven-county Region. Particularly significant historic sites are listed on the National Register of Historic Places. About 375 historic sites and 55 historic districts in Southeastern Wisconsin are listed on the National Register. One such site, the Beardsley-Elam Farmhouse is located in the center of the Town of Waterford, on STH 83, between Hill Valley Drive and Maple Road.

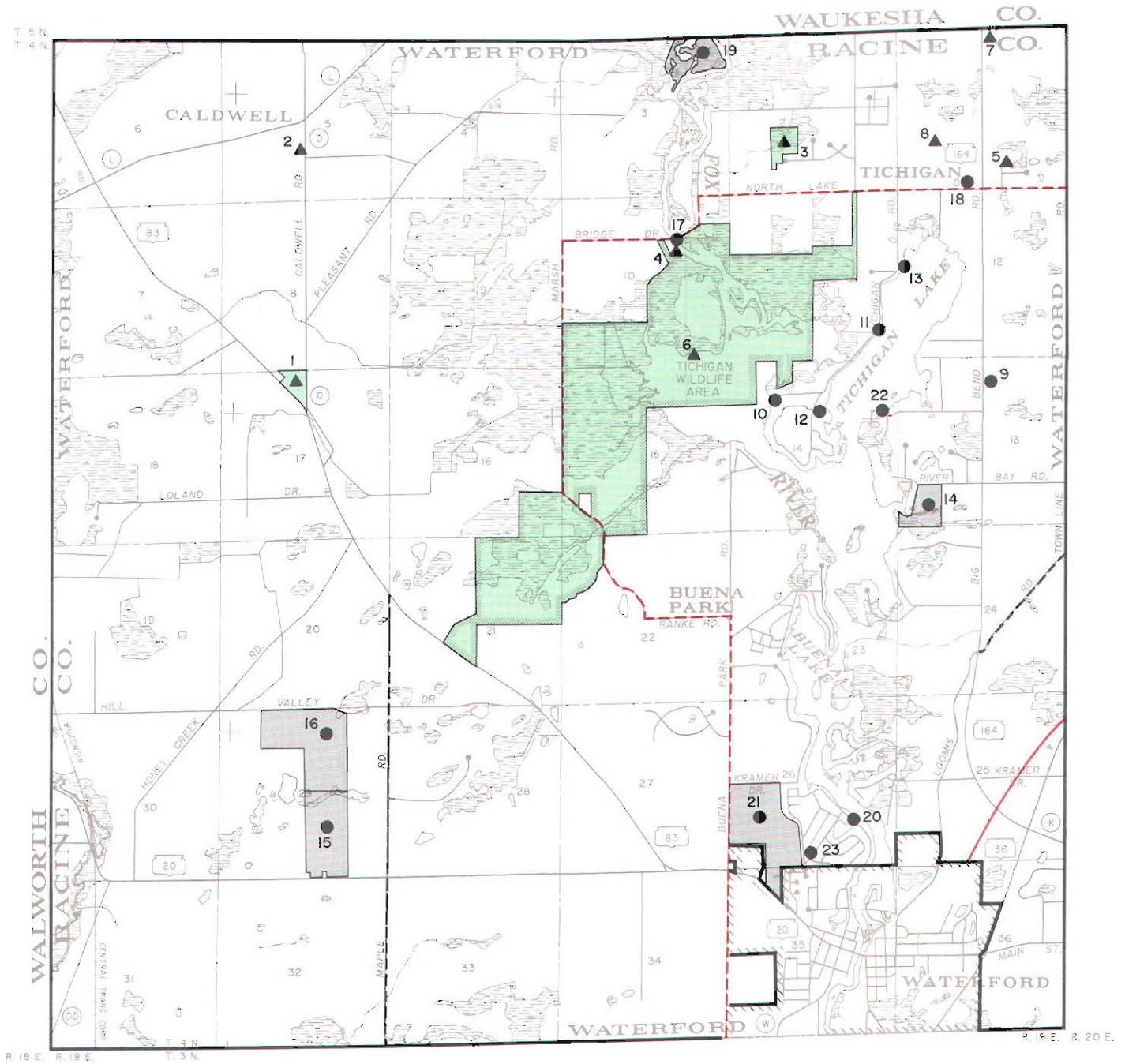
### **ENVIRONMENTAL CORRIDORS AND ISOLATED NATURAL RESOURCE AREAS**

One of the most important tasks completed under the regional planning program for Southeastern Wisconsin has been the identification and delineation of those areas in the Region in which concentrations of the best remaining elements of the natural resource base occur. It was recognized that preservation of such areas is essential both to the



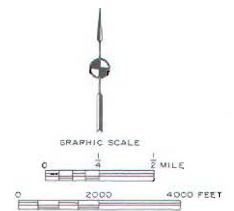
Map 18

EXISTING PARK AND OPEN SPACE SITES IN THE TOWN OF WATERFORD: 1993



LEGEND

- ▲ PUBLIC SITE
- NONPUBLIC SITE
- 22 SITE NUMBER (SEE TABLE 15)
- RACINE COUNTY BICYCLE TRAIL
- - - RACINE COUNTY BICYCLE ROUTE
- - - RUSTIC ROAD



Source: Town of Waterford and SEWRPC.



Table 15

## EXISTING PARK AND OPEN SPACE SITES IN THE TOWN OF WATERFORD: 1993

Site Name	Number on Map 18	Acreage	Facilities
<b>Public</b>			
Caldwell Fire Station No. 2 .....	1	13	Softball diamond
Caldwell School .....	2	3	Playground
County Land (American Eagle Manor) .....	3	16	Open space site
Public Boat Access .....	4	2	Boat Launch
Tichigan Volunteer Fire Department Grounds .....	5	6	Softball/little league diamond
Tichigan Wildlife Area .....	6	1,221	Open space site, boat access
Washington Elementary School .....	7	1	Playfield, playground
Undeveloped Town Park Site .....	8	31	Undeveloped
Subtotal	8 sites	1,293	--
<b>Nonpublic</b>			
Bear Den .....	9	2	Game farm, petting zoo
Bob's Resort .....	10	1	Boat launch, picnic area
Canteen .....	11	1	Canoe rental
Castle .....	12	4	Picnic area, boat launch
Dooley's Knot Inn .....	13	1	Picnic area, boat launch, beach
Golden Arrow Bow Club .....	14	29	Target range, trails
Green Meadow Farms .....	15	80	--
Hoppe Homestead .....	16	120	--
Jim & Yvonne's .....	17	1	Picnic area, boat launch
Miniature Golf .....	18	1	--
Norris School for Boys .....	19	41 <sup>a</sup>	--
Pettit Park .....	20	2	Open space site
Rivermoor Golf Course .....	21	106	--
Southeast Shores .....	22	1	Picnic area, boat launch, beach
Waterford Woods .....	23	4	Open space site
Subtotal	15 sites	394	--
Total	23 sites	1,687	--

<sup>a</sup>Includes only that portion of the site located in the Town of Waterford.

Source: Town of Waterford Park and Recreation Committee and SEWRPC.

maintenance of the overall environmental quality of the Region and to the continued provision of the amenities required to maintain a high quality of life for the resident population.

Under the regional planning program, seven elements of the natural resource base have been considered essential to the maintenance of both the ecological balance as well as the overall quality of life in the Region: 1) lakes, rivers, and streams and the associated shorelands and floodlands, 2) wetlands, 3) woodlands, 4) prairies, 5) wildlife habitat areas, 6) wet, poorly drained, and organic soils, and 7) rugged terrain and high relief topography. In

addition, there are certain other features which, although not a part of the natural resource base per se, are closely related to, or centered on, that base and are a determining factor in identifying and delineating areas with recreational, aesthetic, ecological, and cultural value. These features include: 1) existing park and open space sites, 2) potential park and open space sites, 3) historic sites, 4) scenic areas and vistas, and 5) and natural area sites.

The delineation of these 12 natural resource and natural resource-related elements on maps results in a concentration of such elements in an essentially



linear pattern of relatively narrow, elongated areas which have been termed "environmental corridors" by the Regional Planning Commission.

The environmental corridors of the Town of Watford were delineated, using the following natural resource and natural resource-related element criteria:

1. Point values from one to 20 were assigned to each natural resource and natural resource-related element. These point values were based on the premise that those natural resource elements with intrinsic natural resource values and a high degree of natural diversity should be assigned relatively high point values, whereas natural resource-related elements with only implied natural values should be assigned relatively low point values. These values for each element of corridor are shown in Table 16.
2. Each natural resource element was mapped and point values for overlapping resource elements in a given area were summed.
3. Environmental corridors were then delineated on the basis of cumulative point values and the size of the areas containing natural resource and resource-related elements, as follows:
  - a. Primary environmental corridors include areas with a cumulative point value of 10 or more that are at least 400 acres in size, two miles in length, and 200 feet in width.
  - b. Secondary environmental corridors include areas with a cumulative point value of 10 or more that are at least 100 acres in size and one mile in length.
  - c. Isolated natural resource areas also have a cumulative point value of 10 or more, with a minimum size of five acres. Isolated natural areas are generally separated physically from primary and secondary environmental corridors by intensive urban or agricultural land uses.

The preservation of the environmental corridors in essentially natural, open uses can assist in flood-flow attenuation, water pollution abatement, noise pollution abatement, and air quality maintenance.

**Table 16**

**POINT VALUES FOR NATURAL RESOURCE BASE AND NATURAL RESOURCE BASE-RELATED ELEMENTS**

Element	Point Value
<b>Natural Resource Base</b>	
Lake	
Major (50 acres or more) .....	20
Minor (five to 49 acres) .....	20
Rivers or Streams (perennial) .....	10
Shoreland	
Lake or Perennial River or Stream .....	10
Intermittent Stream .....	5
Floodland (100-year recurrence interval) ....	3
Wetland .....	10
Woodland .....	10
Wildlife Habitat	
Class I .....	10
Class II .....	7
Class III .....	5
Steep Slope	
20 Percent or Greater .....	7
12 to 19 Percent .....	5
Prairie .....	10
<b>Natural Resource Base-Related</b>	
Existing Park or Open Space Site	
Rural Open Space Site .....	5
Other Park and Open Space Site .....	2
Potential Park Site	
High-Value .....	3
Medium-Value .....	2
Low-Value .....	1
Historic Site	
Structure .....	1
Other Cultural .....	1
Archaeological .....	2
Scenic Viewpoint .....	5
Scientific and Natural Area	
State Scientific Area .....	15
Natural Area of Statewide or Greater Significance .....	15
Natural Area of Countywide or Regional Significance .....	10
Natural Area of Local Significance .....	5

Source: SEWRPC.

Such corridor preservation is also essential to facilitate the movement of wildlife, especially in times of stress, and for the movement and dispersal of seeds for a variety of plant species. In addition, because of the many interacting relationships which exist between living organisms and their environment, the destruction or deterioration of one important element of the total environment may lead to a



chain reaction of deterioration and destruction of other elements. Draining wetlands, for example, may destroy fish spawning areas, wildlife habitat, groundwater recharge areas, and natural filtration and floodwater storage areas of interconnecting stream systems. The resulting deterioration of surface water quality may, in turn, lead to a deterioration of the quality of groundwater. Similarly, destruction of ground cover may result in soil erosion, stream siltation, more rapid runoff, and increased flooding, as well as the destruction of wildlife habitat. Although the effects of any one of these environmental changes may not by itself be overwhelming, the combined effects may eventually lead to a serious deterioration of the underlying and sustaining natural resource base and of the overall quality of the environment for life. In addition, the intrusion of intensive urban land uses into such areas may result in the creation of serious and costly problems, such as failing foundations for pavements and structures, wet basements, excessive operation of sump pumps, excessive clear water infiltrating into sanitary sewerage systems, and poor drainage. The need to maintain the integrity of the remaining environmental corridors and isolated natural resource areas in Southeastern Wisconsin should, thus, be apparent.

Primary Environmental Corridors: As shown on Map 19, the primary environmental corridors are located primarily in the eastern portion of the Town and include woodlands, wetlands, significant natural areas, wildlife habitats, and the undeveloped natural shoreland areas of the Fox River and Tichigan Lake. It should be noted, however, that significant concentrations of urban development also occur in the aforementioned shoreland areas. The manicured lawns, boathouses, and other intensive uses in such shoreland areas are not included within the environmental corridor delineation. Even though such shoreland areas do not have intrinsic resource value, such as wetlands or woodlands, they still can serve as an important buffer area between surface waters and more intensive urban development and should, to the extent practicable, be maintained in natural, open space uses. Maintaining such areas in natural, open space use provides for the reduction of soil erosion and nonpoint source pollution that could otherwise result in negative water quality impacts on the associated water bodies. County zoning and State regulations do, in fact, provide for certain restrictions on intensive urban development in these shoreland areas. Pri-

mary environmental corridors encompass a total of 7.6 square miles, representing about 22 percent of the total area of the Town.

Secondary Environmental Corridors: As shown on Map 19, the secondary environmental corridors are generally located along the intermittent streams within the Town tributary to the Fox River and Honey Creek. Together, these areas encompasses a total of 1.7 square miles, or about 5 percent of the Town.

Isolated Natural Resource Areas: Isolated natural resource areas in the Town consist largely of smaller pockets of wetlands or woodlands. As shown on Map 19, 39 such areas are scattered throughout the Town. In combination, these areas account for about 1.3 square miles, or about 4 percent of the Town area.

## SUMMARY

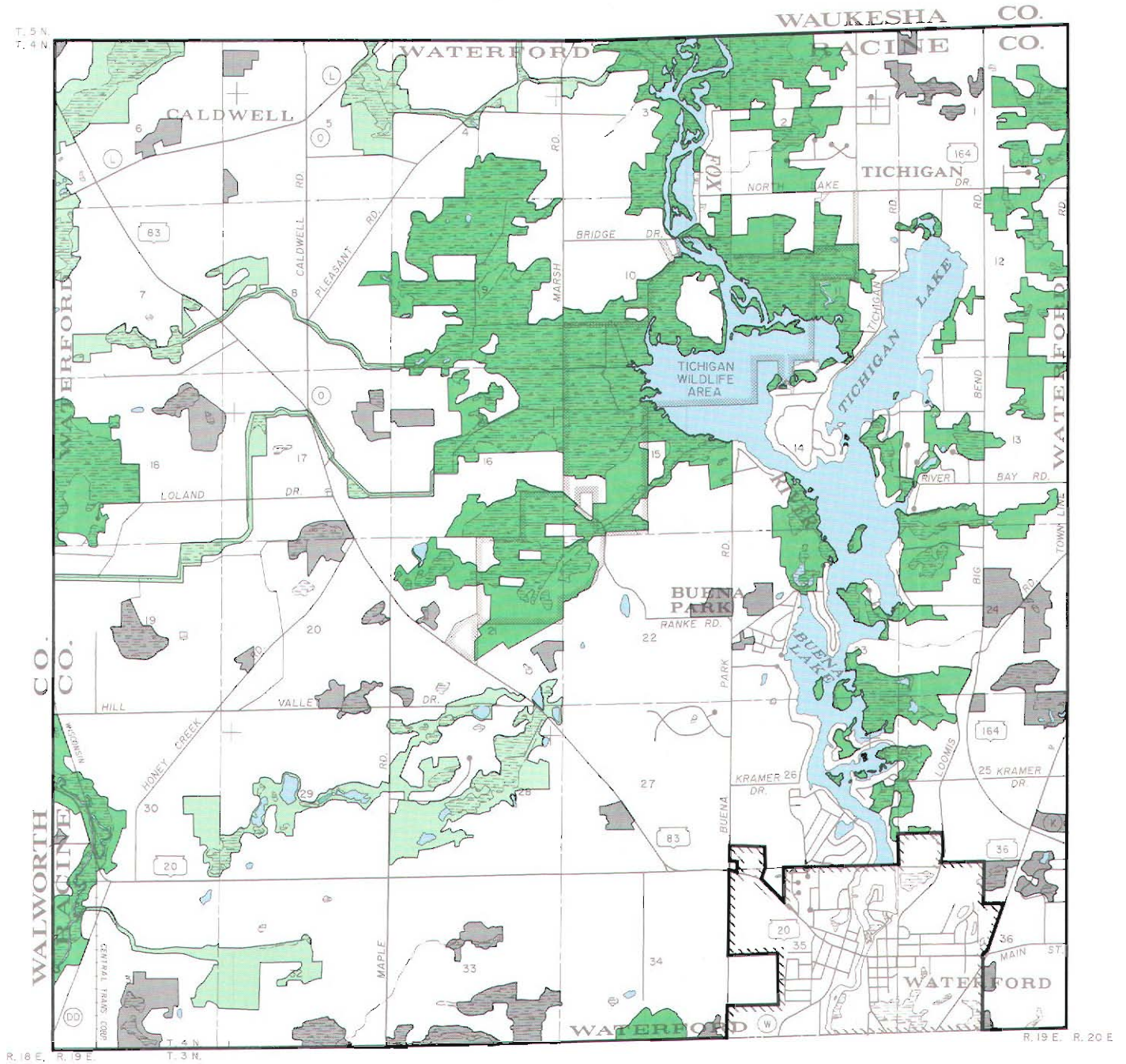
This chapter has presented the results of an inventory and analysis of the natural resource base of the Town of Waterford undertaken in support of the preparation of a land use plan for the Town. The major findings of that inventory and analysis are described below.

1. Soil limitations for various urban and non-urban uses are an important consideration in any sound land use planning effort. Detailed soil survey data indicate that about 10.7 square miles, or about 31 percent of the total area of the Town of Waterford, are covered by soils that have severe limitations for residential development served by public sanitary sewer service, or stated differently, are poorly suited for residential development of any kind. With respect to unsewered development, the soil survey data indicate that 15.4 square miles, or about 45 percent of the total area of the Town, are covered by soils classified as unsuitable for conventional onsite sewage disposal systems; about 10.0 square miles, or about 29 percent, are classified as suitable; and about 6.8 square miles, or 20 percent, are covered by soils of uncertain suitability, requiring onsite inspection to resolve.
2. The Town is located entirely within the Fox River watershed, which is a part of the Mississippi River drainage system. The major



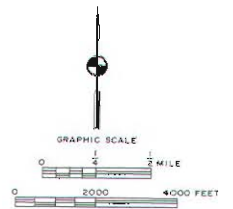
Map 19

ENVIRONMENTAL CORRIDORS AND ISOLATED NATURAL  
RESOURCE AREAS IN THE TOWN OF WATERFORD: 1993



LEGEND

- PRIMARY ENVIRONMENTAL CORRIDOR
- SECONDARY ENVIRONMENTAL CORRIDOR
- ISOLATED NATURAL RESOURCE AREA
- SURFACE WATER



Source: SEWRPC.



surface water resources in the Town include the Fox River and its tributaries including Honey Creek; two major lakes, Buena Lake and Tichigan Lake, and a limited number of smaller, generally unnamed lakes and ponds. Areas of the Town lying within the 100-year recurrence interval floodplain of the Fox River and its tributaries encompass about 5.2 square miles, or 15 percent of the Town.

3. The Town exhibits some significant natural resource base features. The Town includes wetland areas encompassing a total of 4.7 square miles, or 14 percent of the total area of the Town; woodlands encompassing 3.0 square miles, or 9 percent; and wildlife habitat areas encompassing 10.1 square miles, or 29 percent. The Town includes eight sites identified as natural areas under criteria established by the Wisconsin Scientific Areas Preservation Council.
4. There are seven public outdoor recreation sites in the Town. The Tichigan Wildlife Area, owned and managed by the Wisconsin Department of Natural Resources, is the largest site, encompassing about 1,221 acres, or over 5 percent of the total area of the Town.

5. Many of the natural resource features in the Town, as in other parts of the Southeastern Wisconsin Region, occur in linear concentrations in the landscape. One of the most important tasks completed under the regional planning program for Southeastern Wisconsin has been the identification and delineation of these linear areas, or corridors. The most important elements of the natural resource base and features closely related to that base, including wetlands, woodlands, prairie, wildlife habitat, major lakes and streams and associated shorelands and floodlands, and outdoor recreation sites, when combined, result in an essentially linear pattern referred to by the Regional Planning Commission as environmental corridors. Primary environmental corridors include a wide variety of important natural resource and resource related elements and are, by definition, at least 400 acres in size, two miles long, and 200 feet wide. Primary environmental corridors in the Town are primarily associated with the natural resources located along the Fox River and Tichigan Lake. Together, these areas encompass a total of about 7.6 square miles, representing about 22 percent of the total area of the Town.



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## Chapter IV

### THE MAN-MADE ENVIRONMENT

#### INTRODUCTION

Whereas the previous chapter of this report presented a description of the natural resource base of the Town of Waterford, this chapter provides a description of the man-made environment of the Town. Specifically, this chapter presents information regarding the existing land use pattern and changes in that pattern over the past three decades, regarding the existing transportation system, and regarding existing community utilities and facilities. Definitive information regarding existing land use and other related aspects of the man-made environment is essential to any sound land use planning effort.

#### EXISTING LAND USE

The Regional Planning Commission periodically conducts detailed inventories of existing land use in the Southeastern Wisconsin Region, providing definitive information on the type, amount, and spatial location of the major categories of land use within the Region. The first such inventory was conducted in 1963; the most recent in 1990. The existing land use pattern in the Town of Waterford, based upon the 1990 land use inventory, is shown on Map 20 and is quantitatively summarized in Table 17. The trend in land use development for the period from 1963 through 1990 for the Town is presented in Table 18.

As shown on Map 20, existing urban development within the Town of Waterford includes a number of relatively densely developed residential areas along the Fox River and around Buena and Tichigan Lakes and concentrations of residential, commercial, and institutional uses in the old settlements of Caldwell and Tichigan. The Town encompasses many environmentally significant wetland and woodland areas. Despite the scattering of residential homesites that exist within the Town, the Town still contains numerous intact blocks of farmland.

##### Urban Land Uses

Urban land uses, primarily residential, commercial, industrial, recreational, governmental and institu-

tional, and transportation uses, encompassed about 1,980 acres, or about 9 percent of the total area of the Town in 1990. Lands devoted to these urban uses increased by about 600 acres, or about 40 percent, between 1963 and 1990.

Residential lands comprised the largest urban land use category, encompassing about 1,100 acres, or 55 percent of all urban land and 5 percent of the total area of the Town. Residential lands occurred both in concentrations, as noted above, and scattered throughout many areas of the Town.

By 1990, 2,144 lots had been created through residential subdivision plats in the Town of Waterford. Some 212 of these remained as undeveloped, vacant residential lots in 1990.

Since 1990, the base date of the most recent regional land use inventory, development within the Town has been primarily in the form of single-family residential development. As shown in Table 19, of the 212 vacant residential lots in the town in 1990, 69, or about 33 percent, were developed by July 1993. As further shown on Map 21 and Table 19, 288 additional lots have been created through subdivision plats recorded between April 1990 and July 1993. Fifty-two of the 288 new lots, or about 18 percent, were developed as of July 1993. Some 379 vacant residential lots thus remain in the Town as of July 1993. The location of new residential subdivisions in the Town is shown on Map 21.

##### Nonurban Land Uses

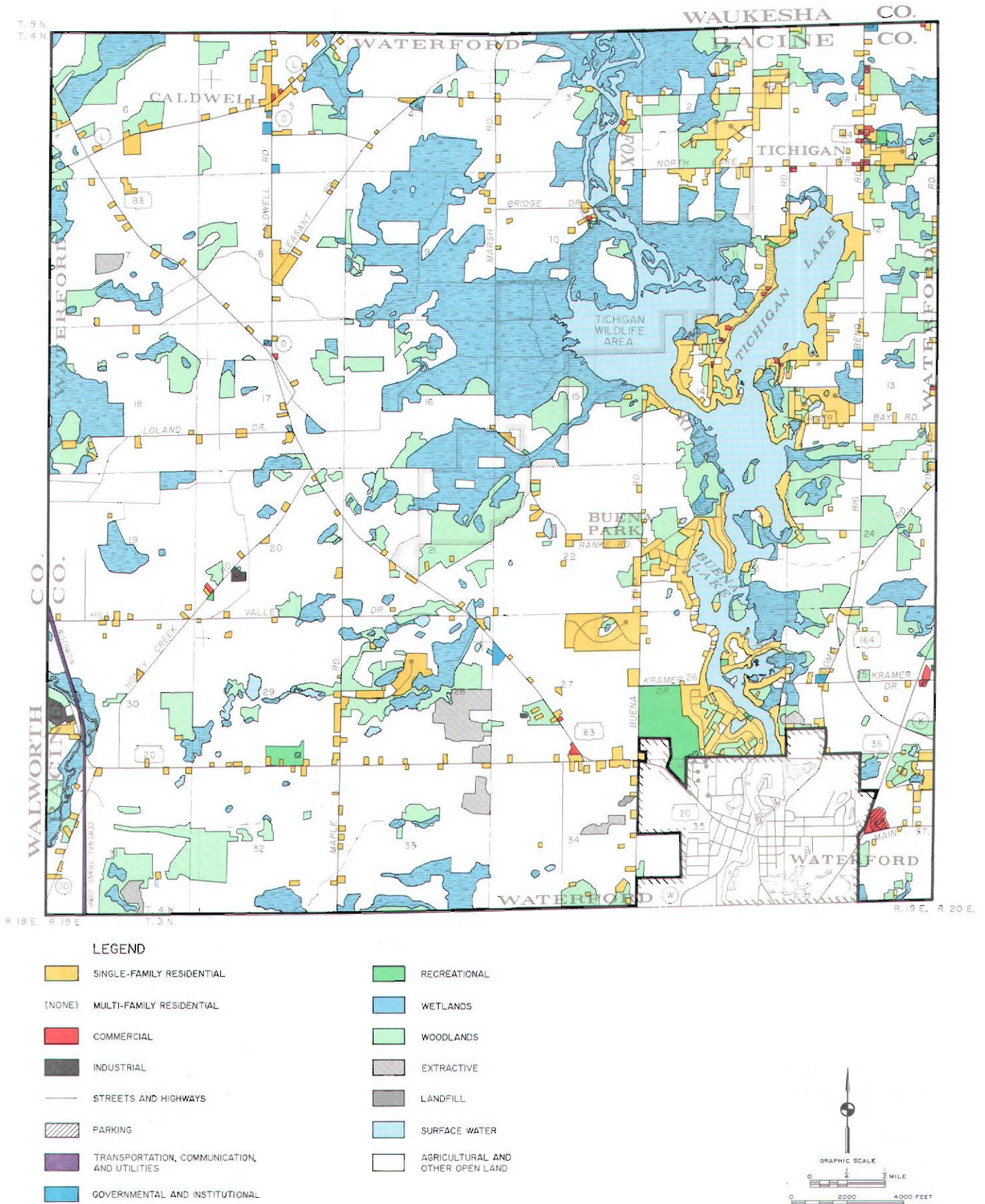
Nonurban land uses, such as agricultural lands, wetlands, woodlands, other open lands, and surface water, comprised about 20,000 acres, or about 91 percent of the total area of the Town, in 1990. Nonurban lands decreased by about 600 acres, or 3 percent, between 1963 and 1990.

Agricultural lands encompassed about 13,200 acres in the Town in 1990, accounting for about 66 percent of all nonurban land and about 60 percent of the total area of the Town. Woodlands, wetlands, and surface water together encompassed about 6,250 acres, about 31 percent of all nonurban lands and about 28 percent of the total area of the Town.



Map 20

EXISTING LAND USE IN THE TOWN OF WATERFORD: 1990



Source: SEWRPC.



Table 17

## EXISTING LAND USE IN THE TOWN OF WATERFORD: 1990

Land Use Category <sup>a</sup>	Acres	Percent of Urban or Nonurban	Percent of Total
<b>Urban</b>			
Residential .....	1,088	55.1	5.0
Commercial .....	30	1.5	0.1
Industrial .....	20	1.0	0.1
Transportation, Communication, and Utilities .....	685	34.7	3.1
Governmental and Institutional .....	18	0.9	0.1
Recreational .....	135	6.8	0.6
Subtotal	1,976	100.0	9.0
<b>Nonurban</b>			
Agricultural .....	13,181	65.9	60.0
Natural Areas			
Woodlands .....	1,922	9.6	8.7
Wetlands .....	3,009	15.0	13.7
Surface Water .....	1,315	6.6	6.0
Subtotal	6,246	31.2	28.4
Extractive and Landfill .....	140	0.7	0.6
Unused Land .....	436	2.2	2.0
Subtotal	20,003	100.0	91.0
<b>Total</b>	<b>21,979</b>	<b>--</b>	<b>100.0</b>

<sup>a</sup>Parking included in associated use.

Source: SEWRPC.

Of the 13,200 acres of farmland existing in the Town in 1990, about 10,000 acres, or 76 percent, were identified as prime farmland under the Racine County farmland preservation plan, adopted by the Racine County Board in 1982.<sup>1</sup> Under that plan, prime farmlands were identified as farm units meeting the following criteria: 1) the farm unit must be at least 35 acres in size, 2) at least one-half of the farm unit must be covered by soils meeting U. S. Soil Conservation Service criteria for prime farmland or farmland of Statewide importance, and 3) the farm unit must occur in a farming area of at least 100 acres in size. Map 22 shows those lands which were identified as prime agricultural land under the County farmland preservation plan and which met the criteria and remained in agricultural use in 1990.

<sup>1</sup>SEWRPC Planning Report No. 46, *A Farmland Preservation Plan for Racine County, Wisconsin, 1981*.

As shown on Map 20, there were several sand and gravel extraction operations, primarily in the southern and western portions of the Town. These lands encompassed about 140 acres in the Town in 1990.

## TRANSPORTATION FACILITIES

### Arterial Streets and Highways

The existing arterial street and highway system serving the Town of Waterford in 1993 is shown on Map 23. Of particular importance to the Town is the planned improvement of STH 36, located in the southeastern portion of the Town, to a four-lane, divided arterial. Current Wisconsin Department of Transportation plans call for right-of-way acquisition in 1994, with construction scheduled to begin in 1995 and to be completed in 1997.

### Freight Railway Facilities

As of 1993, freight railway service was provided over a mainline railway through the southwestern



Table 18

## LAND USE IN THE TOWN OF WATERFORD: 1963, 1970, 1980, AND 1990

Land Use Category <sup>a</sup>	Land Use (acres)				Change in Land Use					
					1963-1970		1970-1980		1980-1990	
	1963	1970	1980	1990	Acres	Percent	Acres	Percent	Acres	Percent
<b>Urban</b>										
Residential .....	657	738	1,001	1,088	81	12.3	263	35.6	87	8.7
Commercial .....	12	18	24	30	6	50.0	6	33.3	6	25.0
Industrial .....	0	9	19	20	9	--	10	111.1	1	5.3
Transportation, Communication, and Utilities .....	597	646	679	685	49	8.2	33	5.1	6	0.9
Governmental and Institutional .....	15	16	19	18	1	6.7	3	18.8	-1	-5.3
Recreational .....	109	135	134	135	26	23.9	-1	-0.7	1	0.7
Subtotal	1,390	1,562	1,876	1,976	172	12.4	314	20.1	100	5.3
<b>Nonurban</b>										
Agricultural .....	13,727	13,580	13,406	13,181	-147	-1.1	-174	-1.3	-225	-1.7
Natural Areas										
Woodlands .....	2,056	1,986	1,915	1,922	-70	-3.4	-71	-3.6	7	0.4
Wetlands .....	3,125	3,068	2,960	3,009	-57	-1.8	-108	-3.5	49	1.7
Surface Water .....	1,284	1,307	1,329	1,315	23	1.8	22	1.7	-14	-1.1
Subtotal	6,465	6,361	6,204	6,246	-104	-1.6	-157	-2.5	42	0.7
Extractive and Landfill .....	28	35	81	140	7	25.0	46	131.4	59	72.8
Unused Land .....	369	441	412	436	72	19.5	-29	-6.6	24	5.8
Subtotal	20,589	20,417	20,103	20,003	-172	-0.8	-314	-1.5	-100	-0.5
<b>Total</b>	<b>21,979</b>	<b>21,979</b>	<b>21,979</b>	<b>21,979</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>

<sup>a</sup>Parking included in associated use.

Source: SEWRPC.

Table 19

## VACANT RESIDENTIAL LOTS IN THE TOWN OF WATERFORD: 1993

Vacant Residential Lots	Number of Lots	Lots Developed 1990 to July 1993	Remaining Vacant Lots: July 1993
March 1990 <sup>a</sup> .....	212	69	143
<b>Lots Created through Subdivision Plats, 1990 to 1993</b>			
Golden Bay .....	65	3	62
Hidden Harbor .....	19	1	18
Hidden Harbor Addition No. 1 .....	27	0	27
Tichigan Trail Estates .....	10	0	10
Golden Meadows Addition No. 1 .....	53	28	25
Bayside <sup>b</sup> .....	80	12	68
Lake Pointe .....	20	4	16
Golfview .....	14	4	10
Subtotal	288	52	236
<b>Total</b>	<b>500</b>	<b>121</b>	<b>379</b>

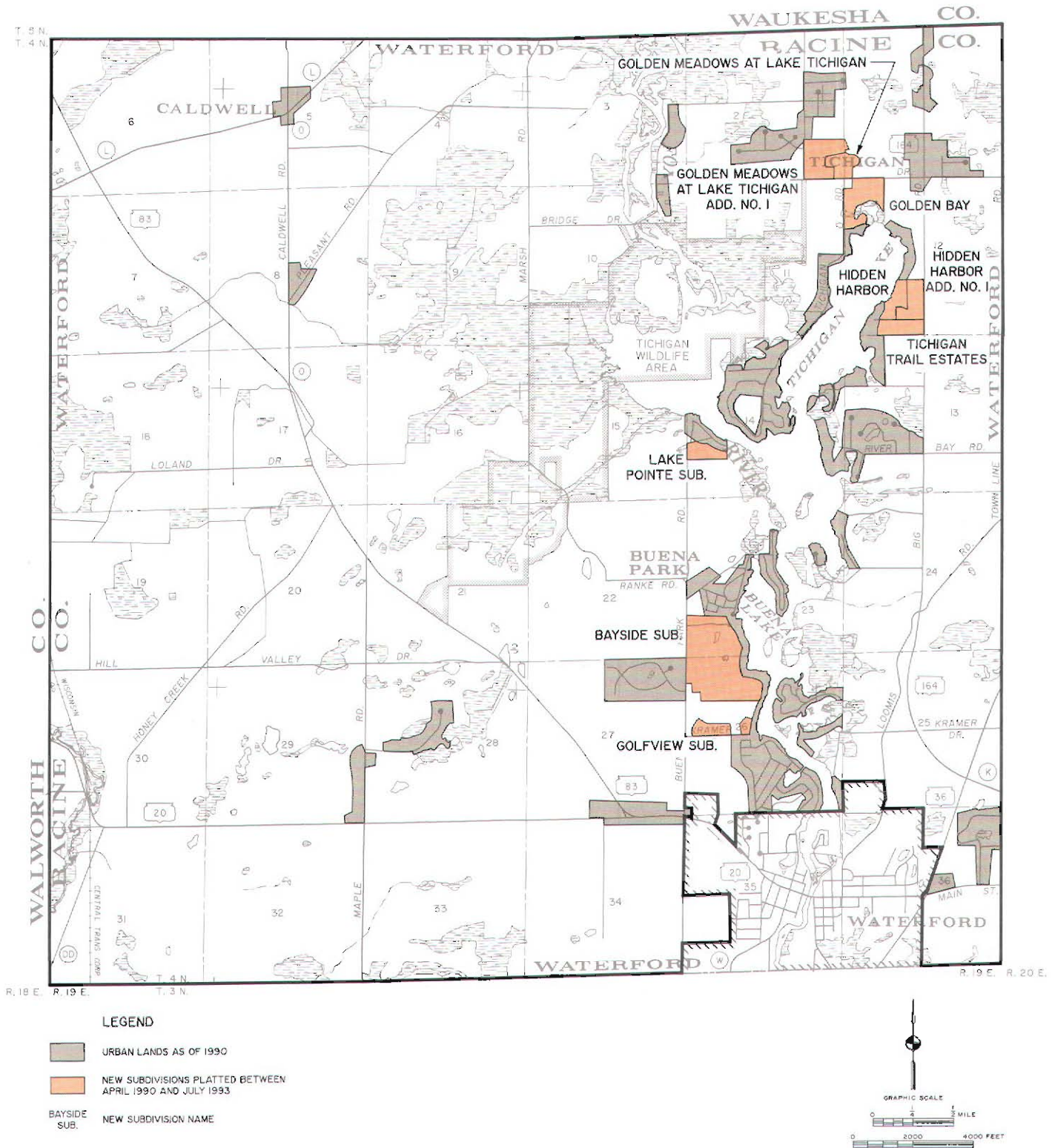
<sup>a</sup>Includes Golden Meadows at Lake Tichigan, which was a subdivision platted prior to, and under development by, March 1990.<sup>b</sup>Platted in 1977, but not developed.

Source: SEWRPC.



Map 21

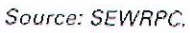
RECENT RESIDENTIAL PLATTING ACTIVITY IN THE TOWN OF WATERFORD: JULY 1993



Source: SEWRPC.



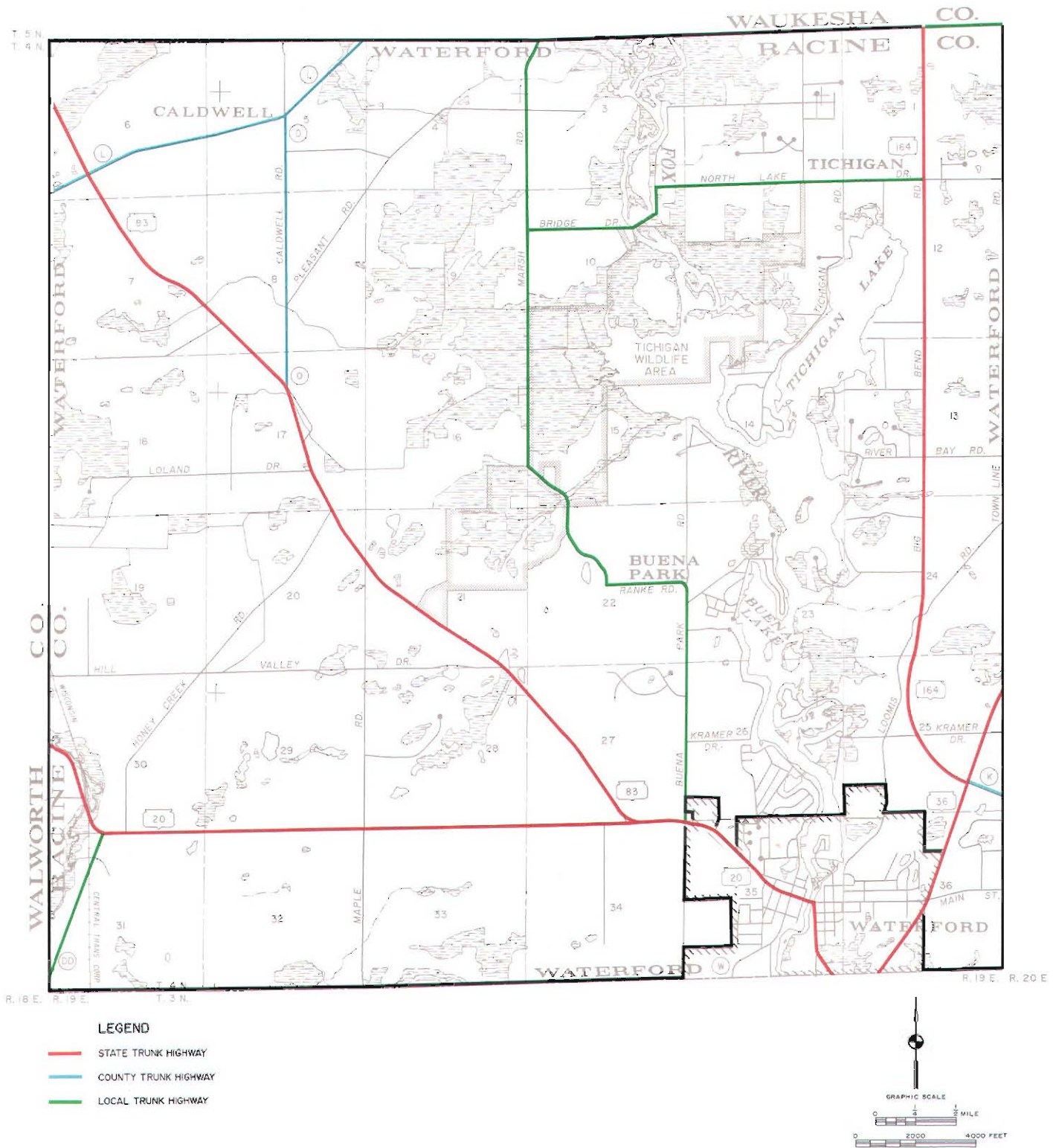
### PRIME AGRICULTURAL LANDS IN THE TOWN OF WATERFORD: 1990





Map 23

ARTERIAL STREET AND HIGHWAY SYSTEM IN THE TOWN OF WATERFORD: 1993



Source: SEWRPC.



portion of the Town of Waterford by the Wisconsin Central, Ltd. That line provided freight service via a corridor through Southeastern Wisconsin between Chicago and Minneapolis-St. Paul.

## PUBLIC UTILITIES

Public utility systems are one of the most important and permanent elements influencing growth and development in a community. Moreover, certain utility facilities are closely linked to surface water and groundwater resources and may, therefore, affect the overall quality of the natural resource base. This is particularly true of sanitary sewerage, water supply, and stormwater drainage facilities, which are, in a sense, modifications or extensions of the natural lake, stream, and watercourse systems of the area and of the underlying groundwater reservoir. The provision of certain public utilities to a largely rural area is normally impractical. Conversely, the development of areas for extensive urban use without certain utilities may create serious and costly environmental and public health problems.

### Sanitary Sewer Service

The provision of public sanitary sewer service within the Town of Waterford was initiated with the creation of the Town of Waterford Sanitary District No. 1 in 1972. It was not until the summer of 1985, however, that consultants to the Town of Waterford Sanitary District No. 1 completed a preliminary sewerage facilities plan for the District. During this same time period, the Regional Commission began working with the Town to prepare a sanitary sewer service area plan. The sanitary sewer service area plan was intended both to identify a sewer service area large enough to accommodate the planned population levels envisioned to be served within the Town of Waterford, consistent with the recently completed sewerage facilities plan, and to identify and detail the environmentally significant lands within that service area. All lands within the proposed sewer service area would be tributary to the Western Racine County Sewerage District Treatment Plant. The sewer service area plan was completed in May 1986 and set forth in a report entitled Community Assistance Planning Report No. 141, Sanitary Sewer Service Area for the Waterford/Rochester Area. This sewer service area, including two subsequent amendments completed in September 1988 and December 1989, is shown on Map 24. The planned sewer service area encompasses about 5.0 square miles. Of this total area, about 1.8 square miles, or 36 percent, are currently

provided with public sanitary sewer service. The sewer service area also contains 2.4 square miles of environmentally significant lands. About 0.8 square mile of land thus remain available to accommodate new urban development within the presently planned sewer service area.

Also shown on Map 24 are the current limits of the Town of Waterford Sanitary District No. 1. Review of this map indicates that there are about 770 acres of lands currently located outside the planned sanitary sewer service area but inside the legally defined limits of the Town of Waterford Sanitary District. Of these lands, about 170 acres, or 22 percent, contain significant natural resource amenities and are not envisioned to be developed for any intensive urban purposes, leaving 600 acres of said lands available for urban development should these lands, at some time in the future, be included within a refined sanitary sewer service area.

### Public Water Supply System

The Town of Waterford does not have a public water supply system. Water for domestic and other uses is supplied by groundwater through the use of private wells.

### Engineered Stormwater Drainage System

The Town of Waterford does not have an engineered stormwater management system. Stormwater drainage is provided by natural watercourses and roadside ditches and culverts.

## COMMUNITY FACILITIES AND SERVICES

### Schools

The Town of Waterford is served by one public high school district, the Waterford Union High School District. This District serves the entire Town of Waterford and operates the Waterford Union High School, a public high school located in the Village of Waterford.

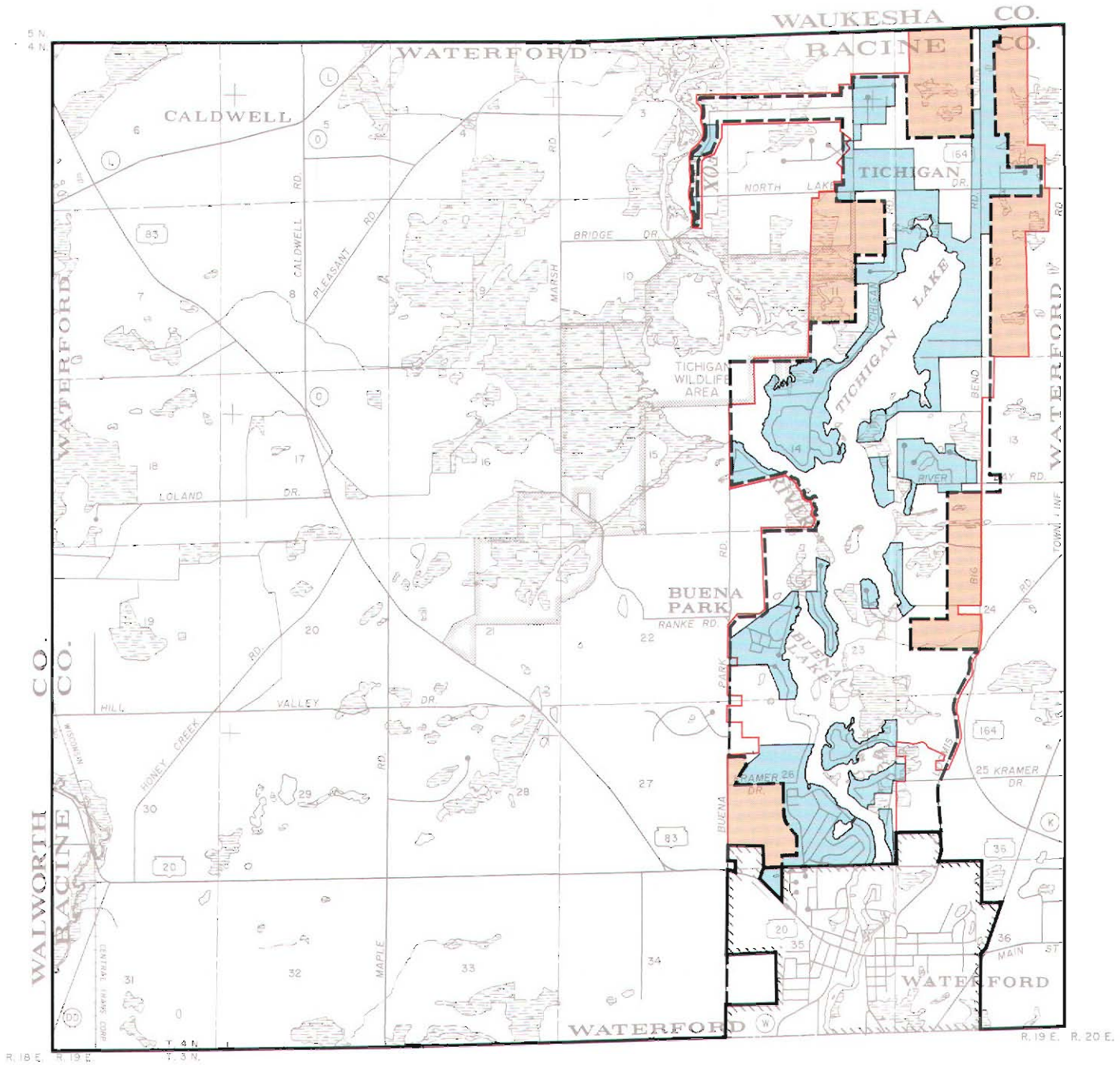
A number of elementary schools serve the Town of Waterford. These include: Caldwell School, located on CTH O south of CTH L, and Washington Elementary School, located on STH 164 at County Line Drive, both in the Town of Waterford; and Evergreen Elementary School, Fox River Middle School, and Maple View Elementary School, all located in the Village of Waterford.

One nonpublic school, St. Thomas Aquinas, an elementary school, is also located in the Village of Waterford.



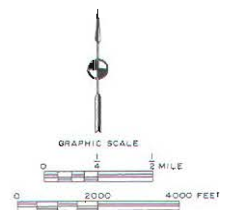
Map 24

EXISTING AND PLANNED SANITARY SEWER SERVICE IN THE TOWN OF WATERFORD: 1993



LEGEND

- LANDS CURRENTLY SERVED BY PUBLIC SANITARY SEWER
- TOWN OF WATERFORD SANITARY DISTRICT NO. 1 BOUNDARY
- PLANNED SEWER SERVICE AREA BOUNDARY
- AREA IN DISTRICT BUT OUTSIDE OF PLANNED SEWER SERVICE AREA



Source: SEWRPC.



### Fire Protection, Emergency Medical Services, and Police Service

Fire protection for most of the Town is provided under contract by the Tichigan Fire Company, a private corporation. The Tichigan Fire Company owns the fire trucks and the fire station, located just north of North Lake Drive on STH 164, and leases a fire station at STH 83 and CTH O from the Town. Fire protection for approximately the southern one-third of the Town is provided under contract with the Village of Waterford Fire Department.

Emergency medical services are provided by the Village of Waterford Fire Department Ambulance Service, with a limited first responder service active in the Town.

The Town has its own full-time police force.

### Solid Waste Disposal

The Town relies on a private firm for removal and disposal of solid waste. In addition, the Town maintains a solid waste recycling and transfer station on a site located on Buena Park Road in the southern portion of the Town. Town residents are responsible for conveying solid waste to this site for recycling and disposal. There are no active landfill sites in the Town.

## SUMMARY

This chapter has presented a description of the existing land use pattern and other pertinent aspects of the man-made environment of the Town of Waterford. A summary of the most important findings of this chapter follows.

1. Existing urban development within the Town of Waterford includes a number of relatively densely developed residential areas along the Fox River and around Buena and Tichigan Lakes and concentrations of residential, commercial, and institutional uses in the old settlements of Caldwell and Tichigan. The Town encompasses many environmentally significant wetland and woodland areas. Despite the scattering of residential homesites that exist in many areas of the Town, the Town still encompasses intact relatively large blocks of farmland.
2. Urban land uses, consisting primarily of residential, commercial, recreational, governmental and institutional, and transportation uses, encompassed about 1,980 acres, or about

9 percent of the total area of the Town of Waterford, in 1990. Lands devoted to these urban uses increased by about 600 acres, or about 40 percent, between 1963 and 1990. Residential lands comprised the largest urban land use category, encompassing about 1,100 acres, or 55 percent of all urban land, and 5 percent of the total area of the Town.

3. By 1990, 2,144 lots had been created through residential subdivision plats in the Town of Waterford. From April 1990 through July 1993, 288 additional residential lots have been created through subdivision plats. Of all the existing residential lots in the Town as of July 1993, 379 remain vacant.
4. Nonurban land uses, such as agricultural lands, wetlands, woodlands, and other open lands, comprised about 20,000 acres, or about 91 percent of the total area of the Town, in 1990. Nonurban lands decreased by about 600 acres, or 3 percent, between 1963 and 1990. Agricultural lands encompassed about 13,200 acres in the Town in 1990, accounting for about 66 percent of all nonurban land and 60 percent of the total area of the Town. Of the 13,200 acres of agricultural lands, about 10,000 acres, or about 76 percent, were identified as prime agricultural lands in the Racine County farmland preservation plan.
5. Vehicular access to and within the Town is provided through the State, County, and local trunk highways which comprise the arterial street and highway system and a system of local collector and access streets. In 1995, construction is scheduled to begin on the improvement of STH 36 to a four-lane arterial, with completion in 1997.
6. Public sanitary sewer service is provided to the Town of Waterford Sanitary District No. 1 by the Western Racine County Sewerage District Treatment Plant. The planned service area in the Town of the District sewerage treatment plant encompasses about 5.0 square miles. Of this total area, 1.8 square miles, or 36 percent of which are currently provided with public sanitary sewer service. The sewer service area also contains 2.4 square miles of environmentally significant lands. About 0.8 square mile of land thus remain available to accommodate new urban development within the planned sewer service area.



## Chapter V

### EXISTING LAND USE REGULATIONS

#### INTRODUCTION

Good community development depends, not only on sound long-range planning at all levels of government, but also on practical plan implementation as well. Zoning is one of the major plan implementation devices available to any community. The primary function of zoning should be to implement the community land use plan. A secondary function should be to protect desirable existing development. Zoning should be a major tool for the implementation of community plans, not a substitute for such plans.

#### ZONING

A zoning ordinance is a public law which regulates and restricts the use of private property in the public interest. A zoning ordinance divides a community into districts for the purpose of regulating the use of land and structures; the height, size, shape, and placement of structures; and the density of population. Zoning seeks to confine certain land uses to those areas of the community which are well suited to those uses, and seeks to set aside land for these particular uses, thereby encouraging the most appropriate use of land throughout the community. Zoning seeks to assure adequate light, air, and open space for each building; to reduce fire hazards; to prevent the overcrowding of land, traffic congestion, and the overloading of the utility systems. Zoning should also seek to protect and preserve the natural resource base.

A zoning ordinance typically consists of two parts: 1) a text setting forth regulations that apply to each of the various zoning districts, together with related procedural, administrative, and legal provisions and 2) a map delineating the boundaries of the various districts to which the differing regulations apply.

The Town of Waterford is under the jurisdiction of the Racine County general zoning and shoreland-floodplain zoning ordinance. The ordinance currently in effect was adopted by Racine County in

1982 and approved by the Town of Waterford the same year.

The general zoning provisions of the County zoning ordinance are administered jointly by Racine County and the Town of Waterford. As stipulated in Chapter 59 of the Wisconsin Statutes, towns which are under the jurisdiction of a county zoning ordinance must be given the opportunity to review and comment upon all zoning amendments proposed by the county. If a town board formally disapproves a proposed zoning district boundary change within the town, or if a majority of towns disapprove a change in district regulations, a county may not approve the proposed zoning changes without revision. Conversely, zoning changes proposed by a town must be formally approved by the county.

Under Wisconsin Statutes, counties are responsible for the zoning of shoreland areas within civil towns. Shoreland areas are defined in the Statutes as lands within the following distance from the ordinary high-water mark of navigable waters: 1,000 feet from a lake, pond, or flowage and 300 feet from a river or stream or to the landward side of the floodplain, whichever distance is greater. Zoning amendments within shoreland areas do not require approval and are not subject to disapproval by town boards. In practice, however, Racine County and the Town of Waterford act together to implement zoning in the shoreland areas of the Town.

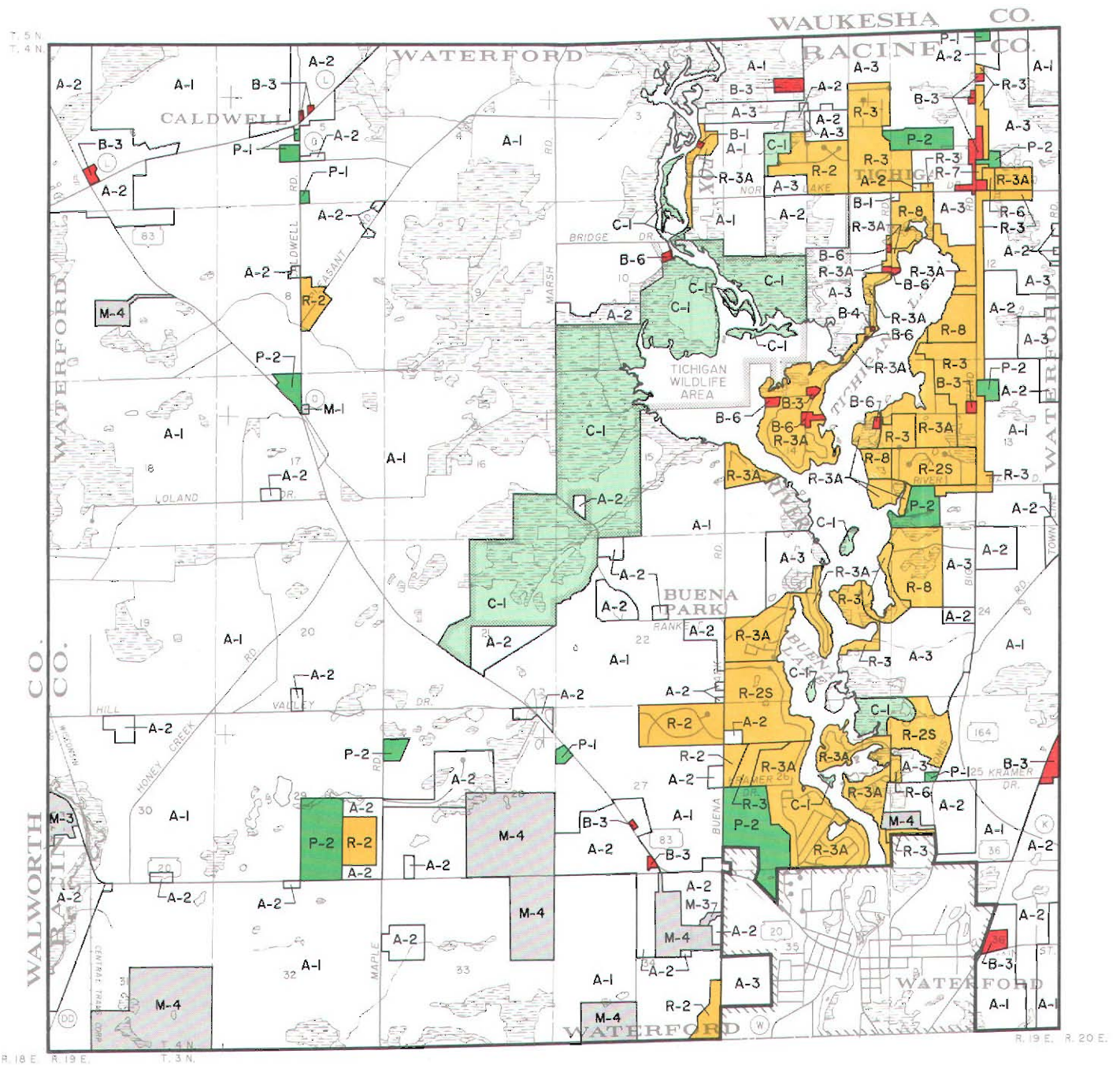
#### Basic Zoning Districts

Existing 1993 zoning districts within the Town of Waterford are shown on Map 25. The permitted uses and the lot size, width, and setback requirements for the various districts are summarized in Table 20. A tabular summary of the areal extent of the various districts is presented in Table 21.

As indicated in Table 21, agricultural zoning was in place on about 16,990 acres, about 27 square miles, or about 77 percent of the total area of the Town. The A-1 General Farming I district, which establishes a minimum parcel size of 35 acres, has been applied to about 13,770 acres, about 21.5 square



EXISTING ZONING IN THE TOWN OF WATERFORD: 1993



LEGEND

ZONING DISTRICTS

- R-1 COUNTRY ESTATE (NONE)
- R-2 SUBURBAN RESIDENTIAL, UNSEWERED
- R-2S SUBURBAN RESIDENTIAL, SEWERED
- R-3 SUBURBAN RESIDENTIAL, SEWERED
- R-3A SUBURBAN RESIDENTIAL, SEWERED
- R-4 URBAN RESIDENTIAL I (NONE)
- R-5 URBAN RESIDENTIAL II (NONE)
- R-5A URBAN RESIDENTIAL III (NONE)
- R-6 TWO-FAMILY RESIDENTIAL
- R-6A TWO-FAMILY RESIDENTIAL II (NONE)
- R-7 MULTI-FAMILY RESIDENTIAL
- R-8 PLANNED RESIDENTIAL

- B-1 NEIGHBORHOOD BUSINESS
- B-2 COMMUNITY BUSINESS (NONE)
- B-3 COMMERCIAL SERVICE
- B-4 PLANNED BUSINESS
- B-5 HIGHWAY BUSINESS (NONE)
- B-6 WATER ORIENTED BUSINESS
- B-7 ADULT ENTERTAINMENT BUSINESS (NONE)
- M-1 LIGHT INDUSTRIAL AND OFFICE
- M-2 GENERAL INDUSTRIAL (NONE)
- M-3 HEAVY INDUSTRIAL
- M-4 QUARRYING
- A-1 GENERAL FARMING I
- A-2 GENERAL FARMING AND RESIDENTIAL II

- A-3 GENERAL FARMING III
- A-4 TRUCK FARMING AND RESIDENTIAL III (NONE)
- P-1 INSTITUTIONAL PARK
- P-2 RECREATIONAL PARK
- C-1 RESOURCE CONSERVATION

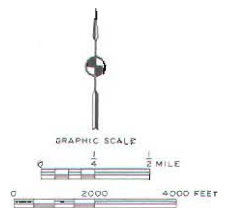




Table 20

## SUMMARY OF BASIC ZONING REGULATIONS: RACINE COUNTY ORDINANCE

District	Typical Principal Uses	Typical Conditional Uses <sup>b,c</sup>	Minimum Lot Size		Minimum Yards <sup>a</sup>			Maximum Building Height (feet)
			Total Area	Total Width (feet)	Street Yard (feet)	Side Yard (feet)	Rear Yard (feet)	
R-1 Country Estate District	One-family dwellings on estate lots and sustained-yield forestry	Stables, nurseries, orchards, riding trails, schools, and churches	5 acres	300	100	50	100	35
R-2 Suburban Residential District (unsewered)	One-family dwellings on lots not served by public sanitary sewer	Schools and churches	40,000 square feet	150	50	15	50	35
R-2S Suburban Residential District (sewered)	One-family dwellings on larger lots served by public sanitary sewer	Schools and churches	40,000 square feet	150	50	15	50	28
R-3 Suburban Residential District (sewered)	One-family dwellings on lots served by public sanitary sewer	Schools and churches	20,000 square feet	100	50	10	50	35
R-3A Suburban Residential District (sewered)	One-family dwellings on lots served by public sanitary sewer	Schools and churches	13,500 square feet	90	35	10	50	35
R-4 Urban Residential District I	One-family dwellings on lots served by public sanitary sewer	Schools and churches	10,000 square feet	75	25	10	25	35
R-5 Urban Residential District II	One-family dwellings on lots served by public sanitary sewer	Schools and churches	7,200 square feet	60	25	10	25	35
R-5A Urban Residential District III	One-family dwellings on lots served by public sanitary sewer	Schools and churches	10,000 square feet	65	25	10	25	28
R-6 Two-Family Residential District	Two-family dwellings on lots served by public sanitary sewer	Rest homes, nursing homes, clinics, children's nurseries, schools, and churches	10,000 square feet	100	25	10	25	35
R-6A Two-Family Residential District II	Two-family dwellings on lots served by public sanitary sewer	Rest homes, nursing homes, clinics, children's nurseries, schools, and churches	20,000 square feet	100	50	10	50	28
R-7 Multi-Family Residential District	Multi-family dwellings, not to exceed eight dwelling units per structure, on lots served by public sanitary sewer	Rest homes, nursing homes, clinics, children's nurseries, clubs, religious and charitable institutions, schools, and churches	15,000 square feet <sup>d</sup>	120	35	20	50	35
R-8 Planned Residential District	Two-family dwellings, multi-family dwellings, and clustered one-family lot developments, all served by public sanitary sewer, and park land	Schools and churches	Varies <sup>e</sup>	Varies <sup>f</sup>	30	10	25	35
B-1 Neighborhood Business District	Neighborhood level retail and service	Residential quarters, heliports, bus and rail depots, vehicle sales, service stations, garages, taxi stands, and public parking lots	15,000 square feet	75	25	10	25	35
B-2 Community Business District	All B-1 principal uses, and community level retail, office, and service	Residential quarters, heliports, bus and rail depots, funeral homes, drive-in banks, vehicle sales, service stations, garages, taxi stands, and public parking lots	15,000 square feet	75	25	10	25	35



**Table 20 (continued)**

District	Typical Principal Uses	Typical Conditional Uses <sup>b,c</sup>	Minimum Lot Size		Minimum Yards <sup>a</sup>			Maximum Building Height (feet)
			Total Area	Total Width (feet)	Street Yard (feet)	Side Yard (feet)	Rear Yard (feet)	
<b>B-3 Commercial Service District</b>	All B-1 and B-2 principal uses, automotive sales and service, boat sales and service, bicycle sales and service, vending machine sales and service, animal hospitals, auction galleries, employment agencies, exterminating shops, motorcycle sales and service, private clubs and lodges, and taxidermists	Residential quarters, commercial recreation facilities, clubs, lodges, heliports, bus and rail depots, funeral homes, drive-in banks, self-service storage facilities, taxi stands, and public parking lots	15,000 square feet	75	25	10	25	35
<b>B-4 Planned Business District</b>	All uses are conditional uses	All B-2 principal uses, residential quarters, commercial recreation facilities, heliports, bus and rail depots, drive-in banks, taxi stands, and public parking lots	2 acres	200	80	10	40	45
<b>B-5 Highway Business District</b>	All uses are conditional uses	All B-1 principal uses, residential quarters, lodges, heliports, bus and rail depots, motels, funeral homes, drive-in banks, tourist homes, truck and bus terminals, self-service storage facilities, public parking lots, places of entertainment, commercial, recreational facilities, drive-in theaters, taxi stands, and public parking lots	4 acres	400	100	40	40	35
<b>B-6 Water-Oriented Business District</b>	Water-oriented commercial uses such as bait shops, bathhouses, fishing, boat sales, service and storage, boat launches, dance halls, hotels, motels, resorts, restaurants, and taverns	Residential quarters, commercial recreation facilities, tourist homes, service stations, taxi stands, and public parking lots	40,000 square feet	150	50	50	50	35
<b>B-7 Adult Entertainment Business District</b>	All uses are conditional uses	Adult bathhouses, adult bookstores, adult video stores, adult modeling studios, massage parlors, cabarets, theaters, and novelty shops	4 acres	400	100	40	40	35
<b>M-1 Light Industrial and Office District</b>	Offices, laboratories, training centers, wholesalers, and light industrial plants	Restaurants, fueling stations, heliports, and bus and rail depots	--	150	100/25 <sup>g</sup>	100/25 <sup>g</sup>	25	35
<b>M-2 General Industrial District</b>	All M-1 principal uses, additional light manufacturing, assembly, and packaging	Restaurants, fueling stations, airstrips, animal hospitals, heliports, bus and rail depots, and self-service storage facilities	--	33	50	20	25	45
<b>M-3 Heavy Industrial District</b>	All M-1 and M-2 principal uses and heavy manufacturing	Same as M-2 District conditional uses	--	33	50	20	25	60
<b>M-4 Quarrying District</b>	Mineral extraction operations and concrete products manufacturing	--	--	--	200 <sup>h</sup>	200 <sup>h</sup>	200 <sup>h</sup>	45



**Table 20 (continued)**

District	Typical Principal Uses	Typical Conditional Uses <sup>b,c</sup>	Minimum Lot Size		Minimum Yards <sup>a</sup>			Maximum Building Height (feet)
			Total Area	Total Width (feet)	Street Yard (feet)	Side Yard (feet)	Rear Yard (feet)	
A-1 General Farming District I	Agriculture, farm dwellings associated with farming operations, and roadside stands	Animal hospitals, commercial egg production, commercial raising of animals, creameries, airstrips, migratory laborers' housing, and sod farming	35 acres	--	100	100	100	50
A-2 General Farming and Residential District II	All A-1 principal uses, one- and two-family dwellings	Same as A-1 District conditional uses, airports, air-strips, universities, hospitals, cemeteries, and storage and maintenance of construction equipment	40,000 square feet	150	75	25	25	28
A-3 General Farming District III	All A-1 principal uses (holding district)	Same as A-1 District conditional uses	35 acres	--	100	100	100	50
A-4 Truck Farming District	Greenhouses, nurseries, orchards, cash crops, roadside stands, and farm dwellings associated with principal use	Animal hospitals, airstrips, universities, hospitals, and cemeteries	10 acres	300	50	15	50	50
P-1 Institutional Park District	Public and private institutional uses such as schools, colleges, hospitals, penal institutions, cemeteries, and crematories	Airports, airstrips, and churches	20 acres	--	100	100	100	50
P-2 Recreational Park District	Public and private recreational uses such as arboretums, fishing, boating, swimming, and recreational trails	Private recreational or assembly structures, golf courses, campgrounds, playgrounds, driving ranges, polo fields, swimming pools, zoological gardens, athletic fields, lodges, picnic areas, archery ranges, and firearm ranges	10 acres	--	100	100	100	35
C-1 Resource Conservation District	Fishing; floodwater storage; pedestrian and equestrian trails; fish hatcheries; hunting; navigation; preservation of scenic, historic, and scientific areas; soil and water conservation practice; sustained-yield forestry; stream bank and lake-shore protection; and wildlife areas	Drainageways, game farms, grazing, orchards, swimming, truck farming, and wild crop harvesting	N/A	N/A	N/A	N/A	N/A	N/A

<sup>a</sup>In addition to the street, side, and rear yards, most districts specify a minimum shore yard of 75 feet from the ordinary high water mark of any navigable water.

<sup>b</sup>Utilities are allowed as conditional uses in all districts provided all principal structures and uses are not less than 50 feet from any residential district lot line.

<sup>c</sup>Governmental and cultural uses such as fire and police stations, community centers, libraries, public emergency shelters, parks, and museums are allowed as conditional uses in all but the C-1, M-4 and agricultural districts.

<sup>d</sup>No less than 2,000 square feet per efficiency unit, 2,500 square feet per one-bedroom unit, and 3,000 square feet per two or more bedroom unit.

<sup>e</sup>4,000 square feet per row-house, 8,000 square feet for one-family dwellings.

<sup>f</sup>120 feet for one-and-one-half-story row-houses, 65 feet for one-family dwellings.

<sup>g</sup>The first figure indicates minimum setback when adjacent to residential districts or opposite a more restrictive district, the second figure is the minimum setback in other cases.

<sup>h</sup>Extractive operations must be set back at least 200 feet from any road right-of-way or property line, accessory uses must be set back at least 100 feet.

Source: Racine County and SEWRPC.



Table 21

## EXISTING ZONING IN THE TOWN OF WATERFORD: 1993

District Type	District Name	Area	Percent of Total
Basic District Residential	R-1 Country Estate	0	0.0
	R-2 Suburban Residential, Unsewered	254	1.2
	R-2S Suburban Residential, Sewered	258	1.2
	R-3 Suburban Residential, Sewered	332	1.5
	R-3A Suburban Residential, Sewered	712	3.2
	R-4 Urban Residential I	0	0.0
	R-5 Urban Residential II	0	0.0
	R-5A Urban Residential III	0	0.0
	R-6 Two-Family Residential	10	0.0
	R-6A Two-Family Residential II	0	0.0
	R-7 Multi-Family Residential	4	0.0
	R-8 Planned Residential	189	0.9
	Subtotal	1,759	8.0
Commercial	B-1 Neighborhood Business	2	0.0
	B-2 Community Business	0	0.0
	B-3 Commercial Service	64	0.3
	B-4 Planned Business	1	0.0
	B-5 Highway Business	0	0.0
	B-6 Water-Oriented Business	13	0.1
	B-7 Adult Entertainment Business	0	0.0
	Subtotal	80	0.4
Industrial	M-1 Light Industrial and Office	2	0.0
	M-2 General Industrial	0	0.0
	M-3 Heavy Industrial	31	0.1
	M-4 Quarrying	605	2.8
	Subtotal	638	2.9
Agricultural	A-1 General Farming I	13,766	62.6
	A-2 General Farming and Residential II	1,782	8.1
	A-3 General Farming III	1,442	6.6
	A-4 Truck Farming	0	0.0
	Subtotal	16,990	77.3
Public	P-1 Institutional Park	22	0.1
	P-2 Recreational Park	270	1.2
	Subtotal	292	1.3
Conservancy	C-1 Resource Conservation	985	4.5
	Surface water is not included in Basic Zoning District <sup>a</sup>	1,235	5.6
--	Total	21,979	100.0
Overlay Districts	FW Urban Floodway	0	0.0
	FCO Urban Floodplain Conservancy	0	0.0
	FFO Urban Floodplain Fringe	0	0.0
	GFO General Floodplain	3,300	15.0
	APO Airport Protection	0	0.0
	SSO Structural Setback	0	0.0
	NSO Nonstructural Setback	0	0.0
	SWO Shoreland Wetland	1,755	8.0
	PUD Planned Unit Development	0	0.0

<sup>a</sup>Includes Fox River/Impoundment, Buena Lake and Tichigan Lake.

Source: SEWRPC.



miles, or 63 percent of the total area of the town.<sup>1</sup> The A-2 General Farming and Residential II district, which establishes a minimum parcel size of 40,000 square feet, has been applied to about 1,780 acres, about 2.8 square miles, or 8 percent of the total area of the Town.

About 985 acres, about 1.5 square miles, or about 5 percent of the total area of the Town, have been placed in C-1 Resource Conservation district to protect the underlying natural resource base.

A total of 605 acres, representing 2.8 percent of the total area of the Town, have been placed in the M-4 Quarrying district. Current application of this district permits mineral extraction and processing at the sites zoned for this purpose, all located in the southern and western portions of the Town.

The rest of the Town has been placed in various residential, commercial, industrial, and institutional or park-recreational districts. Specifically, about 1,760 acres, representing about 8 percent of the Town, have been placed in residential zoning districts; about 80 acres, or less than 1 percent of the Town, have been placed in commercial districts; about 33 acres, or less than 1 percent of the Town, have been placed in manufacturing districts; and about 290 acres, or about 1.3 percent of the Town, have been placed in institutional or park-recreational districts.

#### Overlay Zoning Districts

As indicated in Table 21, the County zoning ordinance includes nine overlay districts. Just two of these, the General Floodplain Overlay District (GFO) and the Shoreland Wetland Overlay District (SWO), are currently applied within the Town of Waterford.

The GFO district is intended to prevent development in flood hazard areas as well as to protect the floodwater conveyance and storage capacity of the

floodplains. County floodplain regulations apply to all lands within the 100-year recurrence interval flood hazard area (see Map 14 in Chapter III). Such areas encompass about 3,300 acres, about 5.7 square miles, or about 15 percent of the Town. The existing floodplain regulations prohibit virtually all new structures within the floodplain, including the floodway and flood fringe areas, in accordance with sound floodland management practice.

The SWO District is intended to protect wetland resources within the regulatory shoreland jurisdictional area. The establishment of a shoreland-wetland zoning district is required under Chapter NR 115 of the Wisconsin Administrative Code. Generally permitted uses in the overlay district must be carried out without filling, flooding, draining, dredging, or other disturbing of the wetland resources.

Racine County, under NR 115, has the authority to regulate activities in shoreland-wetland areas directly. These areas are defined as wetlands five acres or larger in size lying within the previously defined shoreland areas. For the purpose of this ordinance, rivers and streams will be presumed to be navigable if they are designated as either continuous or intermittent waterways on the United States Geological Survey quadrangle maps until the Wisconsin Department of Natural Resources has made a determination that the waterway is not, in fact, navigable.

Wetlands subject to SWO District zoning are shown on Map 26. These wetlands encompass about 1,755 acres, about 2.7 square miles, or about 8 percent of the Town and about 58 percent of the wetlands in the Town. Nonshoreland wetlands are also shown on Map 26. These wetlands encompass about 1,250 acres, 1.6 square miles, or about 6 percent of the Town and about 42 percent of the wetlands in the Town. These wetlands, although not subject to regulations through NR 115, along with shoreland wetlands, are subject to other State and Federal regulations discussed later in this chapter.

It should be noted that when a more restrictive overlay district is in place, e.g., GFO or SWO, the restrictions of the overlay district would supersede the requirements of the basic underlying districts.

While not currently mapped within the Town of Waterford, Racine County also has a Planned Unit Development (PUD) Overlay District, which may be applied to lands in the Town on a case-by-case basis when appropriate. This district is intended to permit developments that will, over a period of time, be

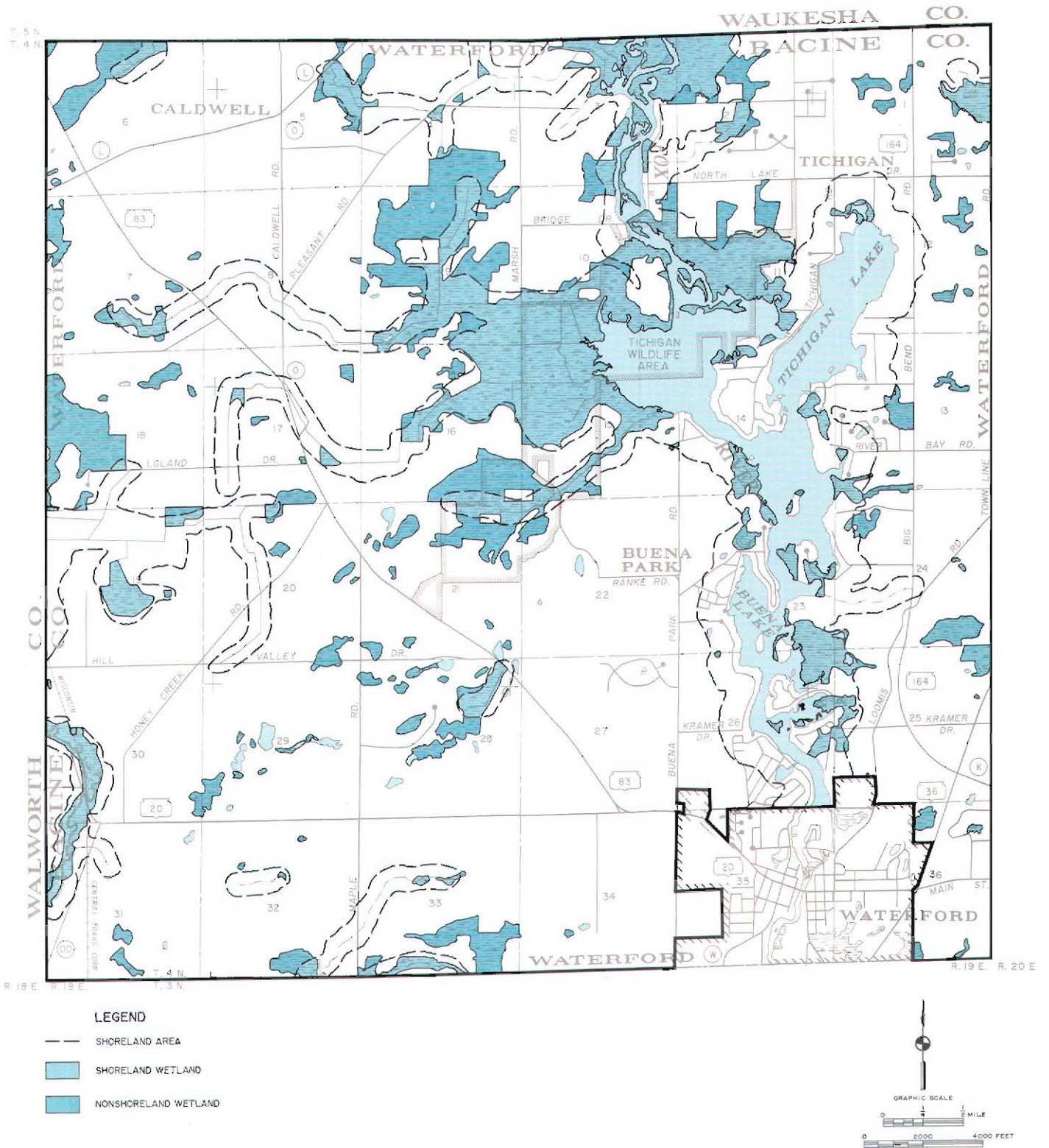
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<sup>1</sup>Placing land in the A-1 General Farming I district satisfies one of the basic eligibility requirements for participation in the Wisconsin Farmland Preservation Program. That program provides property-tax relief in the form of State income-tax credits to eligible farmland owners. Zoning certificates issued by the Racine County Department of Planning and Development indicate that in 1993 about 15 landowners claimed farmland preservation tax credits on farmland encompassing a total of about 2,360 acres, or 17 percent of all land zoned A-1.



Map 26

SHORELAND AREAS IN THE TOWN OF WATERFORD



Source: SEWRPC.



enhanced by coordinated site planning and diversified location of structures. Such developments are intended to provide a safe and efficient system for pedestrian and vehicle traffic, to provide attractive recreation and open spaces as integral parts of the developments, to enable economic design in the location of public and private utilities and community facilities, and to ensure adequate standards of construction and planning.

## LAND SUBDIVISION AND LAND IMPROVEMENT REGULATIONS

The division and improvement of land in the Town of Waterford is governed by the State of Wisconsin Statutes, the Racine County Land Division Control Ordinance, the Town of Waterford Land Division Ordinance, and by the extraterritorial plat review authority of the City of Muskego and of the Villages of Mukwonago and Waterford.

Chapter 236 of the Wisconsin Statutes sets forth general regulations governing the platting of land, including, among others, street layout requirements, necessary approvals, procedures for recording and the vacating and altering of plats. The Statutes also give authority to local government units such as Racine County to review the plat with respect to local plans or official maps, areawide water quality management plans, shoreland management regulations, stormwater runoff, topography, and appropriate lot layouts and street patterns.

The Racine County Land Division Control Ordinance further details the requirements for review of those factors designated by the State for local review. It also defines a land subdivision as the division of land for the purpose of transfer of ownership or building development where the act of division creates five or more parcels or building sites of three acres each or less in area or where the act of division creates five or more parcels or building sites of three acres each or less in area by successive division within a period of five years. The land division ordinance sets forth procedures to be followed in the submittal and review of preliminary and final subdivision plats by the County and establishes certain basic design standards as noted previously. Under the County ordinance, certain improvement requirements, such as those pertaining to road surfacing and to the installation of curbs and gutters, sidewalks, and street lamps, are left to the determination of the town boards of the respective towns.

Importantly, however, the County land division control ordinance does not apply to divisions of tracts of land resulting in the creation of parcels larger than three acres, nor does the ordinance apply to land divisions which result in the creation of up to four parcels or building sites of any size. Racine County, therefore, does not review minor land division by certified survey maps, which could result in the potential creation of new parcels which may not conform to the requirements of the County zoning ordinance.

The Town of Waterford Land Division Control Ordinance includes not only the same guidelines and procedures as the County ordinance, but also includes sections on sidewalks, streets, park dedication, and construction site erosion control and does apply to minor land divisions not covered by the County ordinance.

Section 7 of the Town ordinance regulates the dedication and construction of all streets and highways to be accepted by the Town as public ways. The ordinance requires a minimum right-of-way of 66 feet for all streets and highways. It requires a minimum roadway surface of 22 feet in width.

Sections 2.3 and 10.6 of the Town ordinance established a parkland dedication, or fee in lieu of dedication, requirement for land subdivisions. The ordinance indicates that, upon request of the Town Board, the subdivider shall provide and dedicate to the public adequate land to provide for the park and recreation needs of the subdivision. The amount of land to be provided is one acre for each 120 proposed dwelling units or, in lieu of lands, the amount of \$300 for each dwelling unit/lot within the plat.

It is the practice of the Town to require a developer's agreement between the Town and subdivider specifying the land dedication or fee in lieu of dedication requirements, time schedule for installation of required street and drainage improvements, and financial guarantees to ensure that the developer will pay for all required improvements.

As provided by the Wisconsin Statutes, the City of Muskego and the Villages of Mukwonago and Waterford exercise extraterritorial plat review authority in unincorporated areas within three miles of the corporate limit of the City of Muskego and 1.5 miles of the corporate limits of the Villages of Mukwonago and Waterford. Plats in the Town of Waterford located in the extraterritorial platting jurisdiction of these communities are subject to approval by those municipalities.



## RACINE COUNTY SANITARY CODE

The Racine County sanitary code and private sewage system ordinance regulates the location, design, construction, alteration, and maintenance of all private waste disposal systems. The private sewage system regulations apply throughout the County and are listed in Chapter 19, "Utilities," of the Racine County Code of Ordinances.

Under the sanitary code, a holding tank may be installed in the case of the failure of a conventional private sewage system or mound system. Before obtaining permission for a holding tank, however, the applicant must have exhausted all alternative means of private sewage treatment, such as construction of a mound system.

## FEDERAL WETLAND REGULATIONS

Section 404 of the Federal Clean Water Act requires the U. S. Department of the Army, Corps of Engineers, working in cooperation with the U. S. Environmental Protection Agency, to regulate the discharge of dredged and fill materials into waters of the United States, including lakes, rivers, and wetlands. In carrying out this responsibility, the Corps of Engineers identifies waters of the United States, including wetlands, and determines when permits are required for the discharge of dredged and fill materials. Some silviculture, mining, and agricultural activities in water and wetland areas may be exempt from the individual permit requirement; certain minor activities, such as boat ramp construction and shore stabilization, may be undertaken under a pre-approved general, or nationwide, permit.

Under the provisions of Section 401 of the Clean Water Act, the issuance of Federal permits must be consistent with State water quality policies and standards.

## OTHER STATE RESOURCE REGULATORY PROGRAMS

Chapter NR 103 of the Wisconsin Administrative Code establishes water quality standards for wetlands. These standards, like the more general policies set forth for wetlands protection under Chapter NR 1.95, are applied by the Wisconsin Department of Natural Resources in all its decisions under existing State authority and in State review for certification of Section 404 permits. The water

quality standards for wetlands are intended to provide protection of all waters of the State, including wetlands, for all present and potential future uses, such as for public and private water supply; for use by fish and other aquatic life, as well as by wild and domestic animals; for preservation of natural flora and fauna; for domestic and recreational uses; and for agricultural, commercial, industrial, and other uses. In cases where State certification is denied, the U. S. Department of the Army, Corps of Engineers, permit would also be denied.

Chapters NR 110 and ILHR 82 of the Wisconsin Administrative Code require that the Wisconsin Department of Natural Resources, in its regulation of public sanitary sewers, and the Wisconsin Department of Industry, Labor and Human Relations, in its regulation of private sanitary sewers, make a finding that all proposed sanitary sewer extensions are in conformance with adopted area-wide water quality management plans and the sanitary sewer service areas identified in such plans. If a locally proposed sanitary sewer extension is designed to serve areas not recommended for sewer service in an areawide water quality management plan, the State agencies concerned must deny approval of the extension. More specifically, the State agency concerned must make a finding that the area proposed to be served is located 1) within an approval sewer service area and 2) outside areas involving physical or environmental constraints which, if developed, would have adverse water quality impacts. Areas having such physical or environmental constraints may include wetlands, shorelands, floodways and floodplains, steep slopes, highly erodible soils and other limiting soil types, and groundwater recharge areas. In the Town of Waterford, these areas are generally found within the environmental corridors, as identified on Map 19 in Chapter III.

## SUMMARY

This chapter has presented a description of those regulations which have a direct bearing on the use of land in the Town of Waterford. A summary of the major findings of this chapter follows:

1. The Town of Waterford is under the jurisdiction of the Racine County general zoning and shoreland-floodplain zoning ordinances. The general zoning provisions are administered jointly by Racine County and the Town of Waterford. Under county-town general zoning in Wisconsin, towns must be given the oppor-



tunity to review and comment upon all zoning amendments proposed by the county. If a town board formally disapproves a proposed zoning district boundary change, or if a majority of towns disapprove of a proposed change in district regulations, a county may not approve the proposed amendment without revision. Under Wisconsin Statutes, counties are responsible for the zoning of shoreland areas within civil towns. Zoning amendments within shoreland areas do not require approval and are not subject to disapproval by town boards. In practice, however, Racine County and the Town of Waterford act together to implement zoning in the shoreland areas.

2. In 1993, lands in the Town of Waterford were zoned for major land use categories as follows: agricultural, 16,990 acres, or 77.3 percent of the Town; conservancy district, 985 acres, or 4.5 percent; quarry district, 605 acres, or 2.8 percent; residential, 1,760 acres, or 8 percent; commercial, 80 acres, or less than 1 percent; manufacturing, 33 acres, or less than 1 percent; institutional, 22 acres, or less than 1 percent; and recreational, 270 acres, or 1.2 percent.
3. County floodplain regulations apply to all lands within the 100-year recurrence interval flood hazard area. Such areas encompass about 3,300 acres, or 15 percent of the Town. The existing floodplain regulations prohibit virtually all new structures throughout the floodplain, in accordance with sound floodland management practice.

County shoreland wetland regulations apply to wetlands of five acres or larger within the designated shoreland areas. These shoreland wetlands encompass 1,755 acres, or about 8 percent of the Town and about 58 percent of the wetlands in the Town. However, all wetlands in the Town are subject to State and Federal regulations.

4. In addition to State statutes governing land divisions, the division and improvement of

land in the Town is also governed by the Racine County Land Division Control Ordinance and the Town of Waterford Land Division Ordinance. The County Land Division Control Ordinance sets forth procedures to be followed in the preparation of preliminary and final subdivision plats and establishes certain basic design standards. Under that ordinance, many basic improvement requirements, such as those pertaining to road surfacing and to the installation of curbs and gutters, sidewalks, and streetlights, are left to the determination of the Town Boards of the respective towns. The Town of Waterford Land Division Ordinance includes not only the same guidelines and procedures as the County ordinance but also regulates the dedication and construction of streets and highways to be accepted by the Town as public ways. The Town ordinance also establishes a requirement of park land dedication or fee in lieu of dedication for land subdivisions.

5. The discharge of dredged and fill materials into waters of the United States, including certain wetlands, is regulated by the U. S. Department of the Army, Corps of Engineers, under Section 404 of the Federal Clean Water Act. The issuance of Federal permits for the discharge of dredged or fill materials into surface water and wetland areas must be consistent with State water quality policies and standards.
6. A number of policies and regulatory programs of the State of Wisconsin have a direct bearing on the use of land and water resources in the Town. Under Chapter NR 103 of the Wisconsin Administrative Code, the Wisconsin Department of Natural Resources is responsible for the protection of the function of wetlands. Under Chapters NR 110 and IHLR 82, the State has the responsibility to ensure that those resources located in the urban and urbanizing areas of the State served by sanitary sewer are protected, thereby assuring the maintenance of water quality within the State.



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## Chapter VI

### LAND USE PLAN

#### INTRODUCTION

A land use plan is an official statement setting forth a municipality's major objectives concerning the desirable physical development of the community. The land use plan for the Town of Waterford, as set forth in this report, consists of recommendations for the type, amount, and spatial location of the various land uses required to serve the needs of the residents of the Town to the year 2010. The plan is intended to be used as a tool to help guide the physical development of the community into a more efficient and attractive pattern and to promote the public health, safety, and general welfare.

The land use plan for the Town of Waterford represents a refinement of the adopted regional land use plan. The regional land use plan, and, as a consequence, the land use plan for the Town of Waterford, recognizes not only the effects and importance of the urban land market in shaping land use patterns, but also seeks to influence the operation of that market in order to achieve a more healthful, attractive, and efficient settlement pattern. Thus, like the regional land use plan, the Town of Waterford land use plan seeks to accommodate new intensive urban development only in those areas which are not subject to such environmental hazards as flooding and steep topography and which can be readily served by such essential public services as centralized sanitary sewer; discourages intensive and incompatible urban development from occurring in primary environmental corridors and other environmentally significant lands; and, to the extent practicable, preserves the remaining prime agricultural lands in the Town.

The land use plan should promote the public interest rather than the interests of individuals or special groups within the community. The very nature of the plan contributes to this purpose, for it facilitates consideration of the relationship of any development proposal, whether privately or publicly advanced, to the overall physical development of the entire community.

The land use plan is a long-range plan, providing a means of relating day-to-day development decisions

to long-range development needs in order to coordinate development through time and to ensure that today's decisions will lead toward tomorrow's goals. In the case of the Town of Waterford, the land use plan is designed for a planning period extending to the year 2010. In this way, the plan is intended to provide for the future, as well as present, needs of the Town.

The land use plan, however, should not be considered as a rigid and unchangeable pattern to which all development proposals must conform, but rather as a flexible guide to help local officials and concerned citizens review development proposals. As conditions change from those used as the basis for the preparation of the plan, the plan should be revised as necessary. Accordingly, the plan should be reviewed periodically to determine whether the land use development objectives are still valid, as well as to determine the extent to which the various objectives are being realized through plan implementation.

The first section of this chapter presents the Town of Waterford plan determinants, including a set of objectives intended to guide the preparation of the plan; consideration of an urban service area for the Town; and forecast population, household, and employment levels for the Town to the plan design year 2010. The second section of this chapter presents the land use plan for the Town designed in accordance with the aforementioned plan determinants.

#### PLAN DETERMINANTS

##### Objectives and Standards

The preparation of the Town of Waterford Land Use Plan was guided by the Town of Waterford Land Use Plan Committee, the membership of that Committee comprised of both public officials and private citizens with a variety of backgrounds, including members of the Town Board, Town Planning Commission, Town of Waterford Sanitary District No. 1, representatives of business and education, and representatives of concerned citizens of the Town. The full Committee membership is set forth on the inside front cover of this report.



Land use concerns identified at a series of meetings of that Committee, together with pertinent issues identified in the Town of Waterford Community Survey conducted in 1990, were used to develop a set of land use development objectives for the Town. Such objectives relate to the allocation and distribution of land use and the provision of community facilities and supporting services to meet the needs of the existing and probable future resident population of the Town to the design year 2010, as well as the preservation of the natural resource base, including environmentally significant lands, agricultural lands, and nonmetallic mineral deposits.

The land use plan for the Town of Waterford is intended to achieve the following objectives:

- To provide a balanced allocation of space to each of the various land uses in order to meet the social, physical, and economic needs of the Town.
- To achieve a harmonious adjustment and logical relationship between existing and new land uses.
- To achieve a spatial distribution of the various land uses which is properly related to the existing and planned transportation, utility, and community facility systems in order to assure the economical provision of public services.
- To provide reasonable access to community and regional facilities and services; to employment, commercial, industrial, cultural, and government centers; and to educational facilities through the appropriate component of the transportation system.
- To preserve prime agricultural lands, that is, lands best suited to agricultural use, within the Town to provide an agricultural reserve for future generations, to protect the agricultural resource base of the Town, and to preserve the rural character of its farming areas.<sup>1</sup>
- To preserve the remaining primary environmental corridor lands in the Town and, to the extent practicable, to preserve the remaining secondary environmental corridor lands and isolated natural resource areas in the Town in order to maintain the overall quality of the environment; to provide opportunities for recreational and educational activities; to

avoid serious environmental and developmental problems.<sup>2</sup>

- To preserve and protect all known economically viable non-metallic mineral deposits, to the extent practicable, within the Town to provide a reserve such deposits for future generations.
- To accommodate new residential development outside of the planned urban area only at rural estate densities, five-acres minimum per dwelling unit, in areas not identified as prime agricultural lands.

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<sup>1</sup>The definition of prime agricultural land used herein is the same as that set forth in the farmland preservation plan adopted by Racine County in 1982. Under the County plan, prime agricultural lands were identified as consisting of farm units of at least 35 acres in area which meet selected soil productivity standards and which occur in "blocks" of similar farmland at least 100 acres in size. Under the County plan, to be considered prime agricultural land, at least one-half of the farm unit had to be covered by soils meeting U. S. Soil Conservation Service standards for prime agricultural lands, largely Class I and II soils, or farmland of State-wide importance, largely Class III soils. For purposes of the Town land use plan, prime agricultural lands were identified in the same manner.

<sup>2</sup>The Town land use plan incorporates delineations of primary environmental corridors, secondary environmental corridors, and isolated natural resource areas prepared by the Regional Planning Commission based upon its continuing natural resource base inventories. Primary environmental corridors represent elongated areas in the landscape which contain concentrations of the most important remaining elements of the natural resource base; by definition, primary environmental corridors are at least 400 acres in area, two miles in length, and 200 feet in width. Secondary environmental corridors also contain a variety of resource elements, often being remnants of primary corridors that have been partially converted to intensive urban or agricultural uses; by definition, secondary environmental corridors are at least one mile long and 100 acres in area. Isolated natural resource areas consist of smaller pockets of wetlands, woodlands, or surface water that are isolated from the primary and secondary environmental corridors; by definition, isolated natural resource areas are at least five acres in size.



Table 22

## URBAN LAND USE STANDARDS FOR THE TOWN OF WATERFORD

Land Use Category	Development Standard (gross acres <sup>a</sup> )
<b>Residential</b>	
Suburban-Density (0.2 to 0.6 housing units per net residential acre) . . . . .	183 acres per 100 housing units <sup>b</sup>
Low-Density (0.7 to 1.1 housing units per net residential acre) . . . . .	115 acres per 100 housing units <sup>c</sup>
Medium-Low-Density (1.2 to 2.2 housing units per net residential acre) . . . . .	57 acres per 100 housing units <sup>d</sup>
Medium-Density (2.3 to 6.9 housing units per net residential acre) . . . . .	40 acres per 100 housing units <sup>e</sup>
<b>Commercial</b>	
Neighborhood Retail and Service Center . . . . .	5 to 15 acres for population of 4,000 to 10,000 persons
<b>Public Outdoor Recreation Sites</b>	
State and County Sites . . . . .	Sites to be provided in accordance with the Racine County park and open space plan
Town Sites: Community Neighborhood and Park Sites . . .	Sites to be provided in accordance with the Town of Waterford park and open space plan

<sup>a</sup>Gross area includes associated street rights-of-way and off-street parking. These standards are based upon existing land use studies of the Southeastern Wisconsin Region and are reasonably responsive to expected future conditions as well as to present conditions.

<sup>b</sup>Assumes 1.5-acre residential lots.

<sup>c</sup>Assumes 40,000-square-foot residential lots.

<sup>d</sup>Assumes 20,000-square-foot residential lots.

<sup>e</sup>Assumes 13,500-square-foot residential lots.

Source: SEWRPC.

Table 22 presents a set of urban land use standards for the Town of Waterford, which are intended to supplement the aforelisted land use development objectives. These standards were adapted for the Town from standards developed and used by the Regional Planning Commission in the preparation of local land use plans.

#### Town of Waterford Urban Service Area

The Town of Waterford Land Use Plan Committee identified a planned urban service area for the Town that is coterminous with the existing Town of Waterford Sanitary District No. 1 boundary. The Committee further recommended that the planned population level for that urban service area should not exceed the capacity of the existing sewerage system serving that area.

An analysis of the Town of Waterford Sanitary District No. 1 sewerage system components indicated that the system can accommodate a design population of approximately 7,500 persons with only modest upgrading of existing pumping stations. Increases in planned population above the 7,500 level would require significant and costly modifications to the Waterford Sanitary District main pumping station, No. 15, and its downstream force main, as well as to the downstream Western Racine County Sewerage District facilities, including Pumping Station No. 1 and possibly the sewage treatment plant itself.

It should be noted that during the plan implementation period it may become necessary to periodically reevaluate the capability of the urban service



Table 23

## POPULATION AND HOUSEHOLDS FOR THE TOWN OF WATERFORD: 1990 AND 2010

Condition	Population			Households		
	Within Planned Urban Area	Outside Planned Urban Area	Total	Within Planned Urban Area	Outside Planned Urban Area	Total
Existing 1990 <sup>a</sup> .....	2,721	1,534	4,255	976	493	1,469
Planned 2010 .....	6,658 <sup>b</sup>	2,013	8,671	2,334	658	2,992
Change: 1990-2010						
Number .....	3,937 <sup>b</sup>	479	4,416	1,358	165	1,523
Percent .....	144.7	31.2	103.8	139.1	33.5	103.7

<sup>a</sup>As approximated by whole U. S. Public Land Survey one-quarter section.

<sup>b</sup>Does not include potential population or households which may be developed on lands anticipated to be annexed to the Village of Waterford.

Source: SEWRPC.

area to accommodate additional urban development. When warranted, land adjacent to the current sewer service area, especially in the southeastern portion of the Town in the vicinity of Kramer Drive, and STHs 164 and 36, and lands west of Buena Park Road and south of the Tichigan Lake wildlife area, may be considered for inclusion in the urban service area.

#### Future Population, Household, and Employment Levels

The range of resident population levels envisioned in the Town of Waterford under the alternative future land use plans prepared by the Commission as part of its regional land use planning program are set forth in Chapter II of this report. Under the alternative land use plans prepared, year 2010 population levels for the Town would range from about 5,200 persons under the intermediate-growth centralized plan to about 6,300 persons under the high-growth decentralized plan. Current growth trends in the Town, however, indicate that the year 2010 population levels in the Town could exceed even the population forecasts envisioned under the high-growth decentralized scenario. Taking into consideration recent subdivision platting and existing vacant lots (see Table 19, Chapter IV), current building trends (see Table 8, Chapter II), and the planned residential densities of the remaining developable lands in the Town of Waterford Sanitary District No. 1, the planned urban service area,

the Town could achieve a resident population level of about 8,700 persons by the year 2010, an increase of approximately 4,400 persons, or about 100 percent over the 1990 level. Of the approximately 4,400 person increase, about 4,000 persons, or about 90 percent, are envisioned to occur within the planned urban service area. The plan also recognizes that there will be some additional population increase outside of the planned urban service area. In those areas, the resident population may be expected to increase by about 500 persons, or about a 30 percent over the 1990 level. It is anticipated that approximately 1,525 additional housing units will be added to the 1990 stock of 1,470 housing units in the Town to accommodate these population increases. Of the 1,525 additional housing units, about 1,360, or about 89 percent, would occur in the planned urban service area, and about 165, or about 11 percent, would occur in the areas outside of the planned urban service area (see Table 23).

Employment levels in the Town may be expected to increase by about 140 jobs, or about 25 percent, from 560 jobs in 1990 to about 700 jobs in 2010. This relatively modest increase in employment is dictated by the Committee's desire to maintain the primarily residential character of the Town. With the exception of the need for a neighborhood shopping center to serve the retail and service needs of the expanding residential areas of the Town, no new retail or industrial centers are planned for the Town.



## RECOMMENDED LAND USE PLAN FOR THE TOWN OF WATERFORD

The recommended land use plan for the Town of Waterford is presented graphically on Map 27. Quantitative data relative to the plan are provided in Table 24. This plan was developed, essentially, by detailing the year 2010 regional land use plan as it pertains to the Town of Waterford and in accordance with the previously identified plan determinants. The regional land use plan seeks to encourage new intensive urban development within the Town to occur within the identified planned urban service area; it envisions that new residential development outside of the planned urban service area would occur primarily at rural densities; and calls for the preservation of primary environmental corridors and most of the remaining prime agricultural lands within the Town.

### Residential Development

Proper consideration of the land use plan requires an understanding of the residential density concepts involved. For purposes of this study, “urban” residential development is defined as residential development which occurs at densities of less than five acres per dwelling unit; “rural” residential development is defined as residential development which occurs at densities five acres or greater per dwelling unit. Urban residential development may be further classified as “suburban-density” development, with lot sizes ranging from about 1.5 acres to five acres; “low-density” development, with lot sizes ranging from about 40,000 square feet to 1.5 acres; “medium-low density” development, with lot sizes ranging from about 19,000 square feet to about 40,000 square feet; and “medium density” development, with lot sizes ranging from about 6,200 square feet to about 19,000 square feet.<sup>3</sup>

The land use plan envisions the following with respect to urban residential development within the Town:

1. Additional urban residential land uses would be created through infilling existing vacant lots in areas already committed to such use in platted subdivisions, as well as on vacant developable land in designated residential

areas located within the planned urban service area. As set forth in Table 24, urban residential land uses in the Town of Waterford totaled 1,068 acres, or about 5 percent of the Town area, in 1990. By the year 2010, urban residential lands within the Town are anticipated to increase by 1,497 acres, or about 140 percent, and thus, by the year 2010, would total 2,565 acres, or about 12 percent of the total area of the Town. It is interesting to note that 1,429 acres, or 95 percent of the 1,497 acres of new urban residential land envisioned to occur in the Town over the 1990 to 2010 time period are, consistent with plan objectives, anticipated to occur within the planned urban service area. Map 27 and Table 24 also indicate the amount and spatial distribution of urban residential land by residential density category. These residential density categories are intended to reflect the overall density within a given area. The specific residential density category identified could be comprised of an appropriate mix of housing types and styles, including single-family, two-family, and multi-family structures, subject to appropriate zoning.

### Commercial and Industrial Development

The land use plan envisions the following with respect to commercial and industrial development within the Town:

1. Additional commercial land uses in the Town would be created through the development of those lands currently zoned for commercial uses and through the development of a new neighborhood shopping center. Neighborhood shopping centers should provide the day-to-day retail and service needs of nearby residents and should be oriented to residential areas. A grocery store or supermarket typically serves as the anchor for the neighborhood shopping center and such services as banking and dry cleaning are commonly provided. As shown on Map 27, a proposed neighborhood shopping center is recommended to be located within the urban service area in the southwest quadrant of the intersection of STH 164 and North Lake Drive.

As indicated in Table 24, commercial land uses in the Town of Waterford totaled 37 acres, less than 1 percent of the total area of the Town, in 1990. By the year 2010, commercial lands within the Town are anticipated to increase by 17 acres, or about 46 percent, and

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<sup>3</sup>Urban residential development also includes “high-density” development, which provides 2,400 to 6,200 square feet of lot area per dwelling unit. No high-density residential development exists, or is expected to exist, within the Town.



Map 27 has been replaced by Map 1 from the attached amendment.



thus, by the year 2010, commercial lands would total 54 acres, or less than 1 percent of the total area of the Town. Of the anticipated 17 acres increase in commercial lands, about 10 acres, or 60 percent, could be attributed to the new neighborhood shopping center.

2. As indicated in Table 24, there would be no significant industrial development within the Town during the planning period. Any expansion of existing industrial facilities can be accommodated in areas adjacent to existing buildings and would not conflict with plan objectives.

#### Governmental and Institutional Land Uses

The land use plan envisions the following with respect to governmental and institutional land development within the Town:

1. The significant growth in population and household levels envisioned under the plan suggests that there may be a need for an additional fire station in the Town. This station probably would be located in the Buena Park area and the site should encompass about two acres. There are currently no fire station located in this portion of the Town. The lack of such facilities in this area, coupled with the



potential for additional residential development led the Committee with the guidance of the Tichigan Fire Company, to suggest the Buena Park area as the suitable location for the facility. The precise location of such a facility is subject to further study of specific site availability.

2. No additional land for governmental or institutional land uses is identified on the plan map because of the insignificant amount of additional land area, if any, that is expected to be required for such uses during the planning period. Any expansion of such existing facilities as schools which may be necessary as growth continues in the Town can be accommodated in areas adjacent to existing buildings and would not conflict with plan objectives.

#### Park and Recreation Land Uses

Recommendations regarding Town, County, and State park and recreation lands and facilities under the land use plan are the same as those set forth in the Park and Open Space Plan for the Town of Waterford, which was adopted by the Town in 1990 and is shown on Map 5 in Chapter I of this report, and the Racine County park and open space plan, which was adopted by the Racine County Board of Supervisors in 1989.

The land use plan for the Town envisions implementation of the following recommendations included in both the Town and County park and open space plans:

1. Fox River Parkway: The Town and County park and open space plans propose a public parkway along the main stem of the Fox River extending from the northern County boundary southward through Racine County. This parkway would connect with a proposed parkway along the Fox River in Kenosha and Waukesha Counties. The plan further proposes the eventual development of a recreational trail system within the parkway, providing opportunities for such outdoor recreation activities as hiking, biking, horseback riding, nature study, and cross-country skiing. The plan recommends that Racine County assume responsibility for the public acquisition of lands for, and the provision of recreational trail facilities within, the proposed parkway, except for that segment of the trail located

within the Tichigan Wildlife Area, which would be developed by the Wisconsin Department of Natural Resources.

2. Tichigan Wildlife Area: The Town and County park and open space plans call for additional acquisition of privately held land by the Wisconsin Department of Natural Resources within, as well as adjacent to, its adopted Tichigan Wildlife Area project boundary. The Department currently owns lands encompassing about 1,220 acres in the Tichigan Wildlife Area. This would increase by about 640 acres upon acquisition of the remaining privately held lands within, and adjacent to, the Department of Natural Resources project area.
3. Proposed Town Parks: The Town park and open space plan recommends the development of four Town parks. The proposed Town parks would be located on undeveloped Town lands in the northern part of the planned urban service area, north of North Lake Drive; on a proposed site located on the west shore of the Fox River, north of Buena Park; on a proposed site located in the southeast part of the planned urban service area, west of Loomis Road; and on the undeveloped land at the Caldwell Fire Station No. 2 grounds, in the western portion of the Town.

As set forth in the Town park and open space plan, these Town parks are recommended to provide such facilities as softball diamonds, tennis courts, basketball courts, playgrounds, shelters, restrooms, and parking, and, in the case of the proposed site on the Fox River, river access.

As indicated in Table 24, recreational land uses in the Town of Waterford totaled 153 acres, less than 1 percent of the Town in 1990. By the year 2010, recreational lands within the Town are anticipated to increase by 81 acres, or about 53 percent, and thus, by the year 2010, recreational lands would total 234 acres, or about 1 percent of the total area of the Town.

#### Prime Agricultural Lands

As previously noted, the delineation of prime agricultural lands in the Town is consistent with the planning for prime agricultural lands set forth in



the farmland preservation plan adopted by Racine County in 1982.

The land use plan envisions the following with respect to prime agricultural lands in the Town:

1. The existing prime agricultural lands in the Town within the planned urban service area would, as market demand dictates, be converted to urban uses during the planning period.
2. The existing prime agricultural lands in the Town outside of the planned urban service area would be preserved in open use. Only agricultural-related uses would be accommodated in those areas.<sup>4</sup>

This plan seeks to preserve large blocks of productive farmlands within which farming operations can proceed with minimal intrusion from urban land uses. As shown on Map 27, these relatively large blocks of farmland are predominantly found in the western two-thirds of the Town. It should be noted that, in addition to maintaining agricultural resources for future generations, the preservation of prime agricultural land serves a number of other important public purposes. The preservation of farmlands helps to prevent scattered, incomplete neighborhoods which are difficult to provide with basic public services and facilities, and can thus help to control local public expenditures. The preservation of farmland would, moreover, help maintain the natural beauty and cultural heritage of the Town.

As indicated in Table 24, prime agricultural lands in the Town of Waterford totaled 9,792 acres, or about 45 percent of the total area of the Town in 1990. By the year 2010, prime agricultural lands within the Town are anticipated to decrease by 825 acres, or about 8 percent, and thus, by the year 2010, prime agricultural lands would total 8,967 acres, or about 41 percent of the total area of the Town.

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<sup>4</sup>Under the Racine County zoning ordinance, certain farmland tracts not included in the farmland preservation area under the Racine County farmland preservation plan have been placed in the A-1 Agricultural Preservation zoning district. These areas are not included in the prime agricultural area shown on Map 27.

#### Other Agricultural, Rural Residential, and Open Lands

These lands consist of: agricultural lands which do not meet the definition of prime farmland, rural-estate density residential development, and other open lands, such as small wetlands and woodlands not included within an environmental corridor or isolated natural resource area.

The land use plan envisions the following with respect to other agricultural, rural residential and open lands within the Town:

1. Other agricultural and open lands in the Town within the planned urban service area would, as market demand dictates, be converted to urban uses during the planning period.
2. Other agricultural and open lands outside the planned urban service area are intended to remain in those uses, or could be converted to residential development at a rural densities of at least five acres per dwelling unit. Rural residential development can be accommodated in these areas without public sanitary sewer or water supply facilities. Such large lot sizes increase the likelihood that suitable areas, with good soils and level topography, exist on the lot for proper siting of private sewage disposal systems, building pads, driveways, and other residential structures. Rural development should be carefully designed to avoid steep slopes, poorly drained soils, and other physical constraints. It is important to recognize that rural residential development may occur in the form of individual lots five acres or greater in size or in the form of clustered development. In clustered development, housing units are concentrated in a portion of the parcel being developed, while the balance is held in open use, maintaining an overall rural density of no more than one dwelling unit per every five acres. The clustered units may be served by individual onsite sewage disposal systems, in which case the individual lots must be large enough to accommodate a soil absorption field and replacement area, or by a community soil absorption system located elsewhere on the parcel, in which case the individual lots may be smaller. It is anticipated that about 165 additional housing units accommodating about 1,360 persons would be developed predominantly at rural residential



densities on other agricultural or open lands outside of the urban service area in the Town.

As indicated in Table 24, other agricultural, rural residential, and open lands in the Town of Waterford totaled 3,888 acres, or about 18 percent of the total area of the Town in 1990. By the year 2010, these lands within the Town are anticipated to decrease by 1,143 acres, or about 29 percent, and thus, by the year 2010, these lands would total 2,745 acres, or about 13 percent of the total area of the Town.

### Environmentally Significant Areas

Primary Environmental Corridors: As already noted, primary environmental corridors represent elongated areas in the landscape which contain concentrations of the most important remaining elements of the natural resource base. By definition, these corridors are at least 400 acres in area, two miles long, and at least 200 feet in width. Primary environmental corridors within the Town of Waterford are associated with the natural resources located along the Fox River, and Tichigan Lake in the eastern portion of the Town. The preservation of these corridors in essentially natural, open uses is critical to the maintenance of the natural environment of the Town; conversely, since these corridors are generally physically unsuited for urban development, such preservation will help prevent further developmental problems.

The land use plan envisions the following with respect to primary environmental corridors in the Town:

1. Existing primary environmental corridors would be preserved in essentially natural, open uses. Development within such corridors would be limited to that needed to accommodate required transportation and utility facilities, compatible outdoor recreational facilities, and, on a limited basis, rural-density residential use.

Residential development at rural-estate densities could be permitted within environmental corridors, provided the development is carefully planned to protect the elements of the resource base found in the corridor. Such development should be carefully designed to avoid steep slopes, poorly drained soils, and other physical constraints. The larger lot sizes

will protect the environmental corridor areas because they allow woodlands, wetlands, and wildlife habitats to be preserved and permit wildlife to sustain itself in the area.

Cluster residential development is encouraged as an alternative to conventional subdivisions at the rural-estate density in environmental corridor areas. Clustering of housing units allows greater flexibility in residential development design by allowing lot sizes smaller than those normally required by the underlying zoning district since it concentrates the dwellings on a smaller part of the parcel being developed. The area not covered by buildings and appurtenances is left as open space, protected from future development through deed restrictions. Open space in the cluster development provides common areas for recreational use by property owners in the development and limits development on steep slopes, in wooded areas, in drainageways, and in other areas that should not be developed because of physical or environmental constraints.

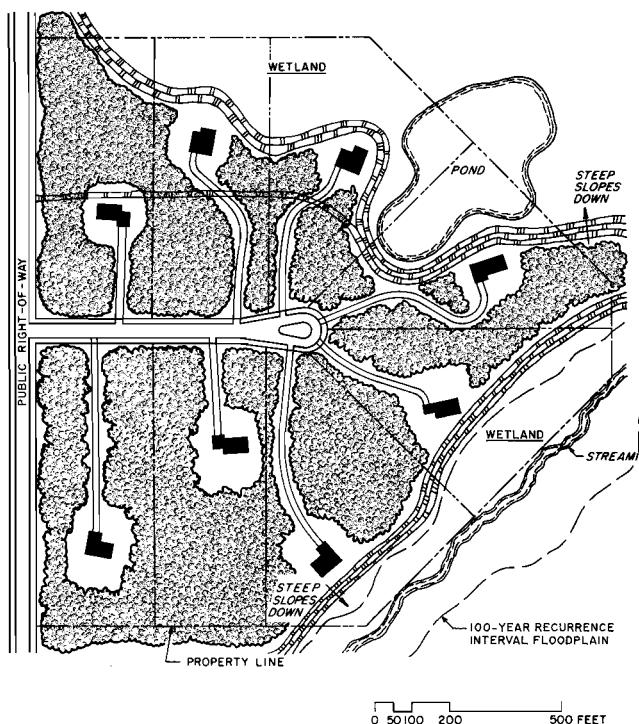
Advantages of cluster development include preservation of open space, protection and conservation of natural drainageways and other environmentally sensitive areas in the development, reduction in impervious surfaces, and reduction in road and utility installation costs. Clustering of dwellings can also facilitate use of community sewage disposal systems. Effluent from individual septic tanks can be collected and transported to a community soil-absorption field located in the open area.

Figures 4 through 6 show three alternative site design options for rural-estate residential development within primary environmental corridors. All the design options provide a means of preserving environmentally sensitive areas while maintaining an overall density of no more than one housing units per five acres of land. Figure 4 shows the site divided into eight five-acre lots. Each housing unit is carefully located to avoid environmentally significant areas. Figure 5 shows the same site with the housing units clustered on eight contiguous one-acre parcels, which allows most of the site to remain undisturbed while still providing each homeowner with a private residence



Figure 4

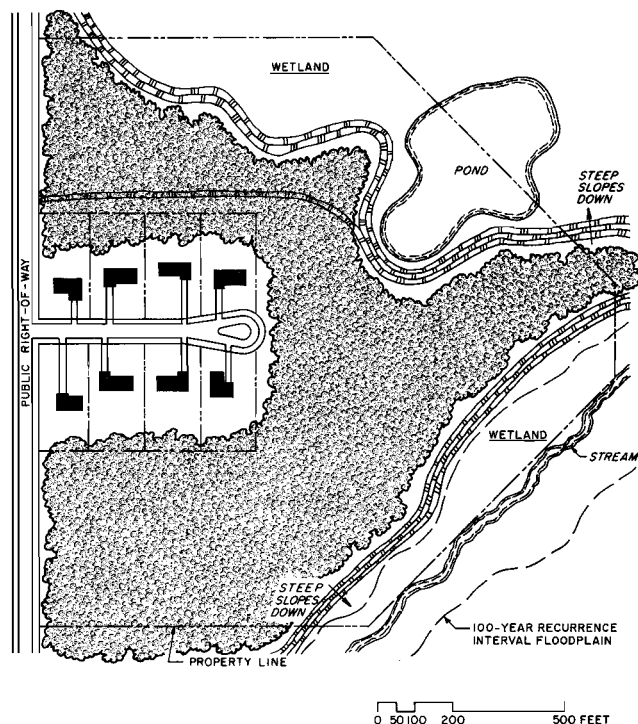
**PRESERVATION OF PRIMARY ENVIRONMENTAL CORRIDOR: FIVE-ACRE LOT DESIGN**



Source: SEWRPC.

Figure 5

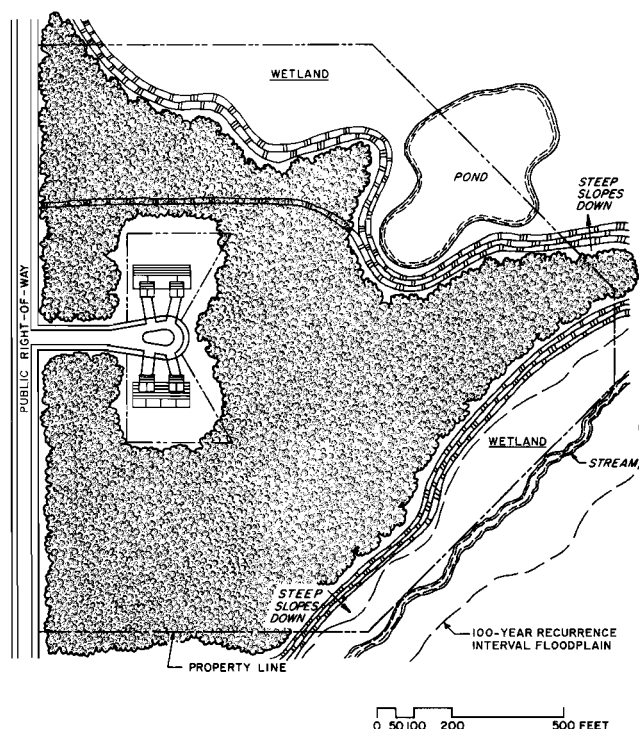
**PRESERVATION OF PRIMARY ENVIRONMENTAL CORRIDOR: CLUSTER DEVELOPMENT ON ONE-ACRE LOTS**



Source: SEWRPC.

Figure 6

**PRESERVATION OF PRIMARY ENVIRONMENTAL CORRIDOR: CONDOMINIUM DEVELOPMENT**



Source: SEWRPC.

and lot. Figure 6 shows the site with the eight housing units clustered into two buildings, each containing four condominium units. This option would be most appealing to those who prefer living in a relatively undeveloped area, but are unwilling or unable to care for a detached housing unit and attendant yard.

2. Under 2010 plan conditions, the configuration of primary environmental corridors would be expanded to encompass agricultural lands within the Tichigan Wildlife Area lying within the 100-year floodplain and the floodplain lands associated with the Golden Bay subdivision, as those lands revert, over time, to natural vegetation.

As indicated in Table 24, primary environmental corridor lands in the Town of Waterford totaled 4,882 acres, or about 22 percent of the total area of the Town, in 1990. With the aforementioned planned additions, the primary environmental corridor acreage would increase by 48 acres, or 1 percent, and thus, by the year 2010, primary environmental corridor lands would total 4,930 acres, or about 22 percent of the total area of the Town.



Secondary Environmental Corridors and Isolated Natural Resource Areas: Secondary corridors also contain a variety of resource elements, since they often are remnants of primary environmental corridors that have been partially converted to intensive urban or agricultural uses. By definition, secondary environmental corridors are at least one mile long and 100 acres in area. Secondary environmental corridors within the Town of Waterford are generally located along the intermittent streams tributary to the Fox River and Honey Creek within the Town. Secondary environmental corridor lands encompass about 1,100 acres, or about 5 percent of the total area of the total area of the Town in 1990.

Isolated natural resource areas consist of smaller pockets of wetlands, woodlands, or surface water that are isolated from the primary and secondary environmental corridors. By definition, isolated natural resource areas are at least five acres in size. Thirty-nine such areas, encompassing a total of about 845 acres, or about 4 percent of the total area of the Town, were located throughout the Town of Waterford in 1990.

The land use plan envisions the following with respect to secondary environmental corridors and isolated natural resource areas:

1. Secondary environmental corridors would be considered for preservation as the process of urban development proceeds on the basis of local needs and concerns. While such corridors may serve as an attractive setting for well-planned residential developments, they also can serve as economical drainageways, storm-water detention basins, and provide needed open space in developing urban areas.
2. Isolated natural resource areas would be preserved in natural, open uses to the extent practicable.

#### Nonmetallic Mineral Extraction Uses

Nonmetallic minerals, including sand and gravel, dimensional building stone, and organic materials, have significant commercial value and are an important economical source of the construction materials needed for the continued development of the Town of Waterford, Racine County, and the Region and for the maintenance of the existing infrastructure. Permitting urban development of lands overlying these resources, or in close proximity to these resources may make it impossible to

utilize such resources economically in the future and thus may result in shortages and concomitant increases in the costs of those materials, which would ultimately be reflected in both consumer prices and in the community tax structure.

The land use plan envisions the following with respect to extractive uses in the Town:

1. There are several existing sand and gravel extractive operations located primarily in the southern and western portions of the Town. The plan recognizes the continued operation of these facilities, as well as the possible expansion of such facilities to adjacent lands subject to appropriate zoning.

As indicated in Table 24, extractive uses in the Town of Waterford totaled 139 acres, or about 1 percent of the total area of the Town in 1990. By the year 2010, extractive uses within the Town are anticipated to increase by 323 acres, or about 230 percent, and thus, by the year 2010, extractive uses would total 462 acres, or about 2 percent of the total area of the Town. It is recognized that quarrying is a temporary use of land requiring restoration in conformity with the proposed land use plan. Therefore, the amount of land being used for quarrying will vary over time as quarrying and restoration take place.

2. Much of the Town of Waterford is underlaid by potentially useable sand and gravel deposits, as described in Chapter III of this report. It must be recognized that there will continue to be a need for sand and gravel for public works and private development projects in the urbanizing Southeastern Wisconsin Region. Decisions regarding future land development within the Region, including the Town of Waterford, should take into consideration the location of mineral resources.

As shown on Map 27, about 8.8 square miles of land has been identified as extractive reserve, based upon soil surveys and information provided by the existing sand and gravel operators in the Town as having significant potential for commercial operations. As further shown on Map 27, much of the area underlaid by such deposits has been identified as prime agricultural land. Maintenance of these prime agricultural lands in



open use would thus also ensure the availability of lands for future mineral extraction purposes.

## RECOMMENDED ARTERIAL STREETS AND HIGHWAYS

The arterial highway network needed to serve the existing and probable future traffic demands in the Town through the year 2010 is also shown on Map 27. The recommended plan incorporates the highway system recommendations of the regional transportation system plan and the County jurisdictional highway system plan as documented in a report entitled Racine County Jurisdictional Highway System Plan—2000, adopted by Racine County in 1990.

The key highway improvement recommendation of the regional transportation plan as it pertains to the Town of Waterford is the widening to four lanes of STH 36 through the Town. Current Wisconsin Department of Transportation plans call for right-of-way acquisition in 1994, with construction scheduled to begin in 1995 and to be completed in 1997.

The Town land use plan envisions growth in population and households beyond what was envisioned in preparation of the regional transportation system plan. Such additional growth may impact transportation facilities in a manner that would result in additional transportation system improvements not envisioned in the regional transportation system plan. Consequently, the transportation needs of the Town may have to be reevaluated as growth in the Town continues over the plan design period.

## PUBLIC INFORMATIONAL MEETING

The Town of Waterford Land Use Plan Committee held a public informational meeting on the proposed Town land use plan on September 19, 1994, to acquaint residents and landowners with the plan and to solicit public reaction to the plan proposals.

While many in attendance at the informational meeting and all comment sheets completed and returned to the Town indicated that the Committee did a good job in preparing the land use plan, three areas of concern were expressed by those in attendance at the meeting:

1. The five-acre minimum densities in the proposed new zoning districts, the A-5, Agri-

cultural/Rural Residential, and C-2, Upland Resource Conservation Districts, appeared too restrictive.

2. The plan did not identify specific areas for potential multi-family buildings which would be needed to accommodate that portion of the Town's population which desired to remain in the Town but could not afford a single-family home.
3. The prime agricultural lands identified, as well as the associated A-1 zoning district, appeared too restrictive given current land value assessments and associated taxes and limited the ability of landowners to sell their land for uses other than farming.

With respect to the first area of concern, the Committee noted that the density of one housing unit per five acres of land in the proposed A-5, Agricultural/Rural Residential District, and the C-2, Upland Resource Conservation District, did not necessarily require that each housing unit have a five-acre lot. The Committee noted that individual lots could be smaller, approximately one acre in size, with the remaining four acres designated for preservation as open space or, in the case of the A-5, Agricultural/Rural Residential District, leased back to farmers for agricultural uses. In this way, the Committee noted the overall density would still remain no greater than one dwelling unit per five acres of land.

With respect to the second area of concern, the Committee noted that the proposed residential densities shown on the land use plan map represented an overall density. Such areas, the Committee noted, could accommodate single-family, two-family, or multi-family structures subject to appropriate zoning. Thus, those persons desiring to live in a multi-family housing structure in the Town could be accommodated under the plan.

With respect to the third area of concern, the Committee members clearly understood the plight of the farmers in the Town of Waterford, especially the difficulties farmers face with increased land value assessments and associated taxes making it very difficult to continue farming operations. They noted, however, that changes to the plan to accommodate low-density residential development in the outlying portions of the Town would foster urban sprawl and make it extremely difficult, because of the increased land value assessments and taxes due



to the reclassification of farmlands for urban uses, for those farmers who truly want to continue farming. The Committee further noted that most of the land recommended for exclusive agricultural use on the Town plan reflects existing zoning conditions. The Committee also noted that the existing zoning was based upon the designation of prime agricultural lands as identified in the County's farmland preservation plan and added as Town and County officials review development proposals or proposed rezonings in the Town, they may want to reevaluate the criteria used in identifying those prime agricultural lands to determine if, in fact, such designation is still warranted. If it is determined that such lands no longer meet the criteria for designation as prime agricultural, a rezoning of lands out of the prime agricultural district may be in order.

On the basis of a review of the comments received at the public informational meeting held September 19, 1994, as well as a review of the comment sheets completed and returned to the Town concerning the plan, it was the unanimous recommendation of the Committee members that the land use plan for the Town of Waterford remain as presented at the public informational meeting.

## SUMMARY

This chapter has presented land use objectives for the Town of Waterford, along with the land use plan designed to achieve those objectives.

The principal function of this plan is to provide information that local officials can use over time in making decisions about growth and development in the Town of Waterford. The plan recommends the

preservation of existing environmentally sensitive areas and prime agricultural lands. At the same time, the plan provides for residential and commercial growth that is compatible with, and reinforces, the objectives of the land use plan.

The land use plan should not be considered as rigid or unchangeable. Such a plan is intended to be used as a guide in the public review of development proposals and a tool to help officials make decisions concerning such proposals. As conditions change from those used as a basis in the plan preparation, the plan should be revised. Accordingly, the plan should be reviewed periodically to determine whether the objectives are still valid and the extent to which these objectives are being realized. The adopted plan should, however, represent a commitment by the Plan Commission and Town Board to strive for the selected land use objectives.

The land use plan is presented graphically on Map 27, while associated tabular data relating to population, households, and land use for both rural and urban service areas of the Town are given in Tables 23 and 24.

The recommended land use plan, together with the supporting implementation measures, provides an important means for promoting the orderly development of the Town of Waterford and providing for a safe, healthful, attractive, and efficient environment. Consistent application of the plan will help assure protection of the Town's natural resource base, including environmental corridors and prime agricultural lands, while providing for the needs of the existing and probable future resident population of the Town.



## Chapter VII

### PLAN IMPLEMENTATION

#### INTRODUCTION

The recommended land use plan for the Town of Waterford is described in Chapter VI of this report. In a practical sense, however, the recommended land use plan is not complete until the steps to implement that plan are specified. After formal adoption of the land use plan, realization of the plan will require faithful, long-term dedication to the underlying objectives by Town and County officials concerned with its implementation. Thus, the adoption of the plan is only the beginning of a series of required actions necessary to achieve the objectives expressed in this report. The plan is intended to be used as a guide when making decisions concerning land development in the Town. In addition to its regular use as a reference document, the plan should be reevaluated regularly to ensure that it continues to reflect current conditions properly. It is recommended that such reevaluation take place at five-year intervals, more frequently if warranted by changing conditions.

Attainment of the goals set forth in the recommended land use plan for the Town will require some changes in the development policies of the Town and the County. Since the attainment and maintenance of the desired character of the Town as expressed in the land use plan is dependent to a considerable extent upon the preservation and protection of the natural resource and agricultural base, new residential development in the Town should occur through the infilling of existing vacant lots in areas already committed to such use in platted subdivisions and on vacant developable land in designated residential areas located within the planned urban service area. Development should be avoided if it would entail the conversion of prime agricultural lands outside the planned urban service area to urban use, the intrusion of urban development into primary environmental corridors, the draining and filling of wetlands, or the logging or heavy grading of hilly wooded areas. These policies are central to a sound development strategy for the Town. Development policies and practices that respect the limitations of the natural environment will, in the long term, not only preserve the overall quality of the environment in the Town, but will

also avoid the creation of serious and costly environmental and developmental problems.

#### PLAN ADOPTION

An important step in plan implementation is the formal adoption of the recommended land use plan by the Town Plan Commission and certification of the adopted plan to the Town Board pursuant to State enabling legislation. Upon such adoption, the recommended plan becomes an official guide for the use of Town officials as they make decisions concerning the development of the Town. The recommended land use plan was adopted by the Town Plan Commission on October 24, 1994, as indicated in the resolution in Appendix A. Following the adoption of the plan by the Town Plan Commission, the plan should be submitted to the Racine County Planning and Development Committee and the Racine County Board for adoption.

#### ZONING

Of all the devices currently available to implement land use plans, perhaps the most important is the zoning ordinance. As indicated in Chapter V, land use regulation by zoning in the Town of Waterford is a joint County-Town function, involving the administration of the Racine County Comprehensive Zoning Ordinance and the Racine County Shoreland-Floodplain Zoning Ordinance. The County zoning districts applicable to the Town are listed in Table 20 and the related zoning regulations are summarized in Chapter V of this report. The current application of those districts within the Town is shown on Map 25 in Chapter V.

In order for the Town to implement the recommended land use plan, changes in the existing County Zoning Ordinance will be required. These changes are of two types: 1) modifications to the text, or regulations, of the zoning ordinance to add an agricultural zoning district that could accommodate rural residential development with an overall density of five acres or more per housing unit and an upland conservancy district that could accommodate rural residential development with an overall density of five acres or more per housing unit while preserving the integrity of the existing natural



resources, and 2) revisions to the zoning district map to reflect land use plan recommendations. These changes are critical to the implementation of the Town land use plan.

#### Zoning Text Changes

It is recommended that the Town of Waterford and Racine County immediately initiate action to create an A-5, Agricultural/Rural Residential District and a C-2, Upland Resource Conservation District, in the Racine County Zoning Ordinance.

The A-5, Agricultural/Rural Residential District, should be intended to provide for the maintenance, preservation, and enhancement within the Town and County of agricultural lands historically utilized for crop production but which are not suitable for inclusion within the A-1, General Farming District, of the County zoning ordinance and which are generally well suited for smaller farm units, including truck farming, horse farming, hobby farming, orchards, and other similar agriculture-related activity. The district would also permit the creation of large rural residential estate type lots, at densities not to exceed one dwelling unit per five acres. This is intended to accommodate the demand for rural single-family residential development by that segment of the population which, while in fact urban in character, nevertheless desires to live in an essentially rural environment. This district should be applied to those areas shown on the adopted Town land use plan as "other agricultural, rural residential, and open land." A suggested draft of the district regulations is also set forth in Appendix B.

The C-2, Upland Resource Conservation District, is intended to preserve and protect all significant woodlands related scenic areas and areas of hilly topography within the Town and County and to provide for limited residential development not to exceed one dwelling unit per five acres. This district should be applied to the upland portions of those areas shown on the adopted Town land use plan as "primary and secondary environmental corridors and isolated natural resource areas." A suggested draft of the district regulations is set forth in Appendix B.

As noted, both of these proposed new zoning districts could accommodate limited residential development at rural-estate densities. Rural residential development at an overall density of 0.2 housing units per net acre, or five acres per housing unit, would provide a sound means of preserving environmental corridors and utilizing areas desig-

nated on the Town land use plan for rural residential development. Several site-design options are available that would allow rural residential development to occur while maintaining an overall density of one housing unit per five acres. Three options reflecting environmentally sensitive site designs are illustrated in Figures 4, 5, and 6 in Chapter VI of this report. The recommended A-5 and C-2 zoning districts would allow cluster residential developments as a conditional use. This provides flexibility in locating dwellings outside environmentally sensitive areas and allows for the preservation of open space. To accommodate cluster residential development as a conditional use for the A-5 and C-2 Districts, text to this effect should also be added to the Racine County Zoning Ordinance. Suggested text to this effect is also set forth in Appendix B.

In order to effect these changes in the existing County Zoning Ordinance, the Town Board could petition the County Board to amend the County ordinance. In the alternative, the Racine County Planning and Development Committee could initiate the needed action and notify the towns within the County of the proposed changes. If the County Board adopts the proposed changes to the text of the ordinances, the eight towns under the jurisdiction of the County ordinances would have 40 days in which to accept or reject each amendment. If a simple majority of the towns approve or do not formally reject the amendments within the 40-day period, the amendments would take effect.

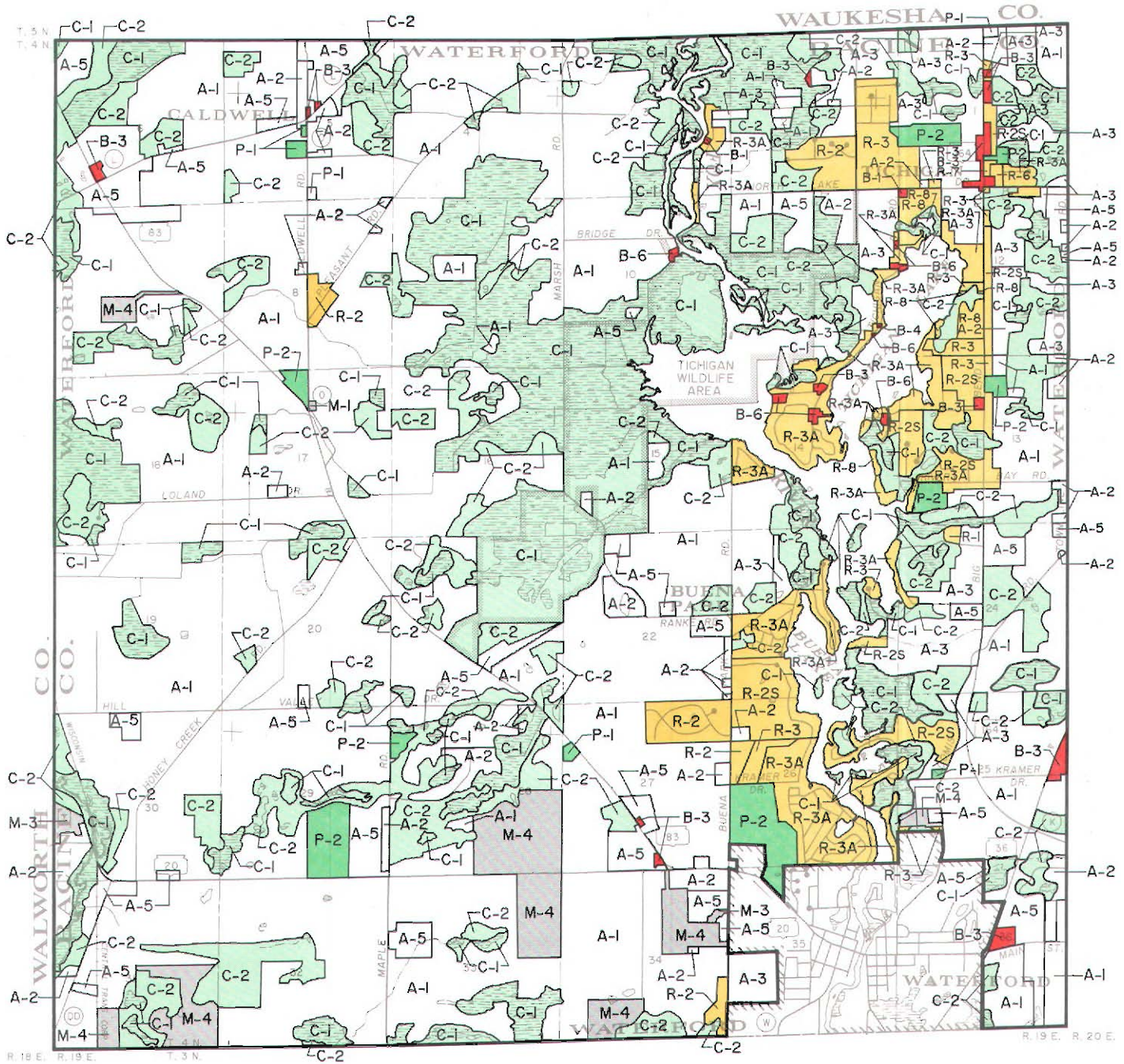
#### Zoning Map Changes

Once the County zoning ordinance has been appropriately amended, the Town of Waterford can proceed to seek amendments to the County zoning district maps as those maps apply to the Town. Map 28 shows the zoning districting within the Town recommended to implement the land use plan.

The zoning districts shown on Map 28 to a large extent represent an accommodation of existing land uses in the Town, with appropriate consideration given to existing parcel sizes. Changes from the existing zoning district map are proposed, the most important of which include the placement of the upland portions of the primary and secondary environmental corridors and isolated natural resource areas within the Town into the C-2, Upland Resource Conservation District; the placement of the lowland portion of the aforementioned corridors into the C-1, Resource Conservation District; the placement of all prime agricultural lands outside of the planned urban service area into the



RECOMMENDED ZONING MAP FOR THE TOWN OF WATERFORD: 1994



LEGEND

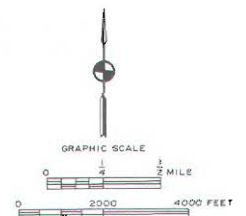
ZONING DISTRICTS

- R-1 COUNTRY ESTATE
- R-2 SUBURBAN RESIDENTIAL, UNSEWERED
- R-2S SUBURBAN RESIDENTIAL, SEWERED
- R-3 SUBURBAN RESIDENTIAL, SEWERED
- R-3A SUBURBAN RESIDENTIAL, SEWERED
- R-4 URBAN RESIDENTIAL I (NONE)
- R-5 URBAN RESIDENTIAL II (NONE)
- R-5A URBAN RESIDENTIAL III (NONE)
- R-6 TWO-FAMILY RESIDENTIAL
- R-6A TWO-FAMILY RESIDENTIAL II (NONE)
- R-7 MULTI-FAMILY RESIDENTIAL
- R-8 PLANNED RESIDENTIAL

- B-1 NEIGHBORHOOD BUSINESS
- B-2 COMMUNITY BUSINESS (NONE)
- B-3 COMMERCIAL SERVICE
- B-4 PLANNED BUSINESS
- B-5 HIGHWAY BUSINESS (NONE)
- B-6 WATER ORIENTED BUSINESS
- B-7 ADULT ENTERTAINMENT BUSINESS (NONE)
- M-1 LIGHT INDUSTRIAL AND OFFICE
- M-2 GENERAL INDUSTRIAL (NONE)
- M-3 HEAVY INDUSTRIAL
- M-4 QUARRYING
- A-1 GENERAL FARMING I
- A-2 GENERAL FARMING AND RESIDENTIAL II

- A-3 GENERAL FARMING III
- A-4 TRUCK FARMING AND RESIDENTIAL II (NONE)
- A-5 AGRICULTURAL/RURAL RESIDENTIAL
- P-1 INSTITUTIONAL PARK
- P-2 RECREATIONAL PARK
- C-1 RESOURCE CONSERVATION
- C-2 UPLAND RESOURCE CONSERVATION

NOTE: C-1 AND C-2 BOUNDARIES ARE SUBJECT TO FIELD VERIFICATION.





A-1, General Farming District; and the placement of a portion of the remaining nonurban lands in the Town outside of the planned urban service area into the A-5, Agricultural/Rural Residential District, all as delineated in the Town land use plan.

The recommended zoning districts shown on Map 28 are intended to protect desirable existing land uses until such time as specific development proposals may be advanced to the Town and the responsible Town and County officials determine that the proposals are consistent with the objectives of the adopted Town land use plan and related development policies. In this regard, Town and County officials in their review of development proposals should take into account the proposed development's impact on various Town facilities such as schools, sanitary sewers, and police and fire protection facilities. Lands acquired by the Wisconsin Department of Natural Resources as additions for the Tichigan Wildlife area after adoption of the plan should be rezoned C-1, Resource Conservation Area. Areas within the planned urban service area can be rezoned to allow urban uses as specific development proposals are submitted to the Town and the County and found to be consistent with the objectives of the adopted Town land use plan and related development policies.

As previously noted, while the Town land use plan has identified a planned urban service area to accommodate anticipated future urban development in the Town, certain lands adjacent to this urban service area may over time also be subject to pressure for urban development. As demand warrants, the Town Plan Commission and Town Board may deem it necessary to expand the urban service area to accommodate additional urban development, some of which could potentially occur without public sanitary sewers, if suitable soil conditions exist to allow for development utilizing onsite septic systems.

In anticipation of such development pressure, the Plan Commission and Town Board may wish to consider the application of the A-3 Agricultural Holding District to those lands in the Town where future development may be envisioned. Lands which may be considered for inclusion in the A-3 Agricultural Holding district include a 3.5 square mile area of land, a band about one mile in width west of Buena Park Road north from the Waterford-Rochester town line to the Tichigan Wildlife Area, as well as lands in the southeastern portion of the Town in the vicinity of Kramer Drive and STH 164 and STH 36.

It is suggested that the recommended zoning districts shown on Map 28 be carefully reviewed by the Town Plan Commission, the Town Board, and Racine County, and that, following such review, the Town Board concurrently with the incorporation by the County of the recommended new zoning districts into the County zoning ordinance formally petition the Racine County Board to amend the Town of Waterford zoning district map. The County Board should then forward the request to the County Planning and Development Committee for a formal public hearing, after which that Committee can recommend the needed district changes to the County Board. The County Board may then adopt the proposed changes to the zoning district map, the changes to take effect 40 days after County Board action, unless the Town Board should act within that time to reject the changes.

#### ENVIRONMENTAL CORRIDORS AND ISOLATED NATURAL RESOURCE AREAS

As noted earlier, areas which have been designated as primary and secondary environmental corridors or isolated natural resource areas should be placed into the appropriate conservancy zoning district. While the placement of the lowland portions of the corridors into the C-1, Resource Conservation District, serves to reinforce Federal, State and County regulations that protect such areas from inappropriate development, the placement of the upland portions into the C-2, Upland Resource Conservation District, serves to protect resources such as woodlands and steep slopes that may not be protected by Federal, State, or local regulations.

While calling for the preservation of environmental corridor lands, the land use plan recognizes that besides limited residential development, such land uses as transportation and utility facilities and certain recreational uses may be accommodated within the corridors without jeopardizing the overall integrity of the corridors. In this respect, general guidelines for types of development which may be accommodated within the various component natural resource features of the environmental corridors have been developed and are set forth in Appendix C. While these guidelines are not exhaustive, with good judgment they may be extended to, and used for the evaluation of, proposals for similar types of development not specifically listed.

#### RESIDENTIAL DENSITIES

As noted in Chapter VI, the residential density categories identified on Map 27 are intended to



reflect the overall density within a given area. The specific residential density category identified could be comprised of varying lot sizes, including sub-standard lots in the older subdivisions of the Town, as well as an appropriate mix of housing types and styles. While it is anticipated that most of the new residential development will be in the form of single-family homes, it is possible that cluster developments utilizing two-family and multi-family structures could also achieve the recommended overall densities subject to appropriate zoning.

#### **SUBDIVISION AND CERTIFIED SURVEY MAP REVIEW**

Properly applied, sound land division regulations can be an important means of implementing a land use plan and of coordinating the layout, design, and improvement of private land development proposals within the Town. The existing Racine County Land Division Control Ordinance and the Town of Waterford Land Division Control Ordinance, which govern the division of land in the Town of Waterford, are basically sound; however, the County land division control ordinance does not apply to minor land divisions created by certified survey maps. Consequently, it is recommended that Racine County amend its land division ordinance to include the regulation of minor land divisions. Should the County not amend its land division ordinance, the Town in its review of certified survey maps under the Town ordinance should request a cooperative review by Racine County to ensure that new parcels conform to the requirements of the County Zoning Ordinance.

Following the adoption of the Town land use plan, the plan should serve as a basis for the review of all preliminary subdivision plats and certified survey maps in the Town. The review should ascertain that each proposed land division is properly related to existing and proposed land uses. Land divisions should consider the proper layout of streets, blocks, and lots as well as the topography, soils, and vegetation. The design should achieve internal unity by recognizing that the subdivision is an integral part of the larger community. Land divisions resulting in lots smaller than five acres, or at an average density of more than 0.2 dwellings per acre, should not be approved in areas recommended to remain in nonurban uses.

#### **OFFICIAL MAPPING**

Following adoption of the recommended land use plan, the existing and proposed streets, highways,

parks, parkways, and playgrounds shown on the plan should be incorporated into an official map of the Town. Section 62.23(6) of the Wisconsin Statutes provides that a town board acting under village powers may establish an official map. Such a map has all the force of law and is deemed to be final and conclusive with respect to the location and width of both existing and proposed streets, highways, and parkways and the location and extent of existing and proposed parks and playgrounds.

One of the basic purposes of the official map is to prohibit the construction of buildings or structures and associated improvements on land that has been designated for current or future public use. The official map is the only arterial street and highway system plan implementation device that operates on a communitywide basis in advance of land development. As such, it can effectively assure the integrated development of the street and highway system. Unlike subdivision control, which operates on a plat-by-plat basis, the plan, with the official map as one of its implementation instruments, can operate over a wide planning area well in advance of development proposals. The official map is a useful device to achieve public acceptance of long-range plans in that it serves legal notice of the government's intention to all parties concerned well in advance of any actual improvements. It thereby avoids the all together too common situation of development being undertaken without knowledge or regard for the long-range plan, and thereby does much to avoid local resistance when plan implementation becomes imminent.

#### **PRECISE NEIGHBORHOOD UNIT DEVELOPMENT PLANS**

Subsequent to the adoption of the land use plan, steps should be taken by the Town to initiate the preparation of precise neighborhood unit development plans for existing and future urban areas delineated in the land use plan. The preparation of precise neighborhood unit development plans is based on the concept that urban areas should be formed of, and developed in, a number of individual cellular units rather than as a single, large, formless mass. A neighborhood may be defined as that area of a community most closely associated with the daily activities of family life, such as an area served by elementary education and convenience shopping facilities. A group of neighborhoods which functions as a unit may be defined as a community. Through precise planning of neighborhood units, residential environments can be established that



are healthy, safe, convenient, and attractive. Such plans greatly assist public officials in guiding and shaping land use development in accordance with the adopted land use plan.

Such plans should provide detailed designs that assure economical and practical land use development, while avoiding the creation of expensive traffic, sewerage, drainage, and water problems. The precise neighborhood design plans should consist of four basic components. The first component of the plans should consist of an inventory and analysis of existing site conditions and other pertinent factors which affect land use development within the delineated neighborhood, including topography and surface drainage, soils, woodlands, wetlands, existing land use, land use regulations, community utilities and facilities, street and highway facilities, and real property ownership. The second component of the plans should describe the design criteria and land use development standards used in the preparation of alternative design plans. The third component of the plans should provide a series of alternative design plans, together with a description of the recommended design plan. The recommended design plan should include precise locations for residential, commercial, governmental and institutional, park and recreational, and

industrial land uses; environmental corridors; and arterial, collector, and minor access streets. The final component of the plans should provide specific recommendations as to how the plan should be implemented. The street patterns and park and parkway sites shown on the completed and adjusted neighborhood unit plan should be incorporated into the Town of Waterford Official Map.

## SUMMARY

The land use plan implementation measures available to the Town include plan adoption; subdivision plat and certified survey map review under the Racine County and Town of Waterford Land Division Ordinances; review and comment on proposed zoning actions; official mapping, precise neighborhood unit planning, and, perhaps most importantly, working with the Racine County Board to amend the existing Racine County Zoning Ordinance and map. Recommended changes to the former ordinance and zoning map include the addition of A-5 and C-2 zoning districts to accommodate rural residential development and to afford greater protection to its natural resources while providing for a reasonable amount of growth.



## Chapter VIII

### SUMMARY

#### INTRODUCTION

In November 1992, Racine County and the Southeastern Wisconsin Regional Planning Commission agreed to assist the Town of Waterford in preparing a Town land use plan. The plan was intended to provide Town and County officials with a tool to help guide and shape land use development in the Town. The plan includes a set of land use development objectives and sets forth the means for achieving those objectives over time. The preparation of the plan was guided by the Town of Waterford Land Use Plan Committee, the membership of which was comprised of both public officials and private citizens with a variety of backgrounds, including members of the Town Board, Town Plan Commission, the Town of Waterford Sanitary District No. 1, representatives of the business and academic communities, and concerned citizens of the Town.

The planning effort involved inventories and analyses of the factors and conditions affecting the land use development in the Town and the preparation of projections of the possible range of future resident population and employment levels in the Town; inventories of the natural resources, including inventories of soils, topography and drainage patterns, flood hazards, woodlands, wildlife habitats, and wetlands; inventories of existing land uses and of local land use regulatory devices; careful analyses of the inventory findings; and, finally, the development of a land use plan that may be expected to accommodate probable future population and employment levels in a manner consistent with the Town's development objectives. The plan, when adopted by the Town Plan Commission and the Town Board, will serve as a guide to protect, over time, the prime agricultural lands and environmentally significant areas of the Town and to guide the location and character of land use development into a pattern consistent with the promotion of the public health, safety, and general welfare. The plan, as set forth in this report, is summarized below.

#### CHAPTER SUMMARY

##### Chapter I: Introduction

Chapter I briefly describes the size and location of the Town of Waterford; its early history; how the regional land use, transportation, and park and open space plans relate to the Town; the purpose of the land use plan; and the procedure used to prepare the plan.

##### Chapter II: Population, Households, and Employment Inventory Analysis and Forecast

Chapter II provides information on the size, characteristics, and distribution of the resident population and employment in the Town, and on anticipated changes in these important socioeconomic factors over time. This information is essential to the preparation of a sound community land use plan, because these factors directly influence land use requirements and needs. The primary purpose of the land use plan is to identify a sound means of meeting those needs in the future.

The selection of forecast of population, household, and employment levels for use in the preparation of a land use plan for the Town of Waterford was based upon consideration of alternative population, household, and employment forecasts to the design year 2010 prepared by the Southeastern Wisconsin Regional Planning Commission and used by the Commission in its regional and local planning efforts. Two alternative population, household, and employment forecasts were developed, one based on an intermediate-growth centralized regional scenario, the adopted regional plan, and one based upon a high-growth decentralized alternative. Town of Waterford population levels, which stood at 4,300 persons in 1990, are envisioned to increase by about 900 persons, or by about 21 percent, to a level of about 5,200 persons, under the intermediate-growth centralized regional plan and by about 2,000 persons, or by about 49 percent, to about 6,300 persons, under the high-growth decentralized alternative. Household levels, which stood at about 1,500 in 1990 were envisioned to increase



by about 400, or by about 30 percent, to a level of about 1,900, under the intermediate-growth centralized regional plan and to increase by about 600, or by about 44 percent, to a level of about 2,100, under the high-growth decentralized alternative. Employment levels in the Town of Waterford, which stood at about 560 jobs in 1990, were envisioned to increase by about 45, or by about 8 percent, to a level of 605, under the intermediate-growth centralized alternative and to increase by 140, or 25 percent, to a level of 700, under the high-growth decentralized alternative.

### Chapter III: Natural Resource-Base Inventory and Analysis

Chapter III presents pertinent information pertaining to the natural resources of the Town, including soils, topography and drainage patterns, surface water, floodlands, wetlands, woodlands, scenic viewpoints, natural and scientific areas, existing public and private parks and open space sites, wildlife habitat, and environmental corridors.

Soil Suitability: Soil limitations for various urban and nonurban uses are an important consideration in any sound land use planning effort. As shown on Map 7 in Chapter III, about 10.7 square miles, or about 31 percent of the total area of the Town of Waterford, are covered by soils that have severe limitations for residential development served by public sanitary sewer service, or, stated differently, are poorly suited for residential development of any kind. With respect to unsewered development, and as shown on Map 8 in Chapter III, about 15.4 square miles, or about 45 percent of the total area of the Town, are covered by soils classified as unsuitable for conventional onsite sewage disposal systems; about 10.0 square miles, or about 29 percent, are classified as suitable; and about 6.8 square miles, or 20 percent, are covered by soils of uncertain suitability, requiring careful onsite inspection to determine the relevant characteristics.

Surface Water and Surface Water Drainage: The Town of Waterford is located entirely within the Fox River watershed, which is a part of the Mississippi River drainage system. As shown on Map 14 in Chapter III, the major surface water resources in the Town include the Fox River and its tributaries, including Honey Creek; two major lakes, Buena Lake and Tichigan Lake, and a limited number of smaller, generally unnamed, lakes and ponds. Areas of the Town lying within the 100-year recurrence interval floodplain of the Fox River and its tributaries encompass about 5.2 square miles, or 15 percent of the total area of the Town.

Natural Resource Base: As shown on Maps 14 through 17 in Chapter III, the Town encompasses a number of significant natural resource-base features. The Town includes wetland areas encompassing a total of 4.7 square miles, or 14 percent of the total area of the Town; woodlands encompassing 3.0 square miles, or 9 percent; and wildlife habitat areas encompassing 10.1 square miles, or 29 percent. The Town includes eight sites identified as natural areas under criteria established by the Wisconsin Scientific Areas Preservation Council.

Recreation: There are seven public outdoor recreation sites in the Town. As shown on Map 18 in Chapter III, the Tichigan Wildlife Area, owned and managed by the Wisconsin Department of Natural Resources, is the largest site, encompassing about 1.9 square miles, or over 5 percent of the total area of the Town.

Primary Environmental Corridors: The primary environmental corridors in the Town of Waterford are associated with the natural resources located along the Fox River and Tichigan Lake, in the eastern portion of the Town. The primary environmental corridors contain the best remaining woodlands, wetlands, and wildlife habitat areas in the Town and are, in effect, a composite of the best individual elements of the natural resource base. These corridors have truly immeasurable environmental and recreational values. Their preservation in an essentially open, natural state, including in park and open space uses, limited agricultural uses, and rural estate-type residential uses, will do much to maintain a high level of environmental quality in, and to protect the natural beauty of, the Town. Such preservation can also avoid the creation of serious and costly environmental and developmental problems such as flood damage, poor drainage, failing foundations of roadways and buildings, wet basements, and water pollution. In 1993, about 7.6 square miles, or about 22 percent of the Town, lay within the primary environmental corridors as shown on Map 19 in Chapter III of this report.

Secondary Environmental Corridors and Isolated Natural Resource Areas: Map 19 in Chapter III of this report also delineates secondary environmental corridors in the Town of Waterford. Secondary environmental corridors, while not as significant as the primary environmental corridors in terms of the overall resource values, should be considered for preservation as development proceeds, because such corridors often provide economical drainageways and wildlife travel routes through residential and agricultural areas. About 1.7 square miles, or about



5 percent of the Town, lay within the secondary environmental corridors in 1993.

Isolated natural resource areas are also identified on Map 19 in Chapter III. Isolated natural resource areas generally consist of natural resource-base elements that have inherent natural value, such as woodlands, wetlands, and surface water, but are separated from primary and secondary environmental corridors by intensive residential or agricultural land uses. Since isolated natural areas lend natural diversity to, and may provide the only available wildlife habitat in, an area, they should be protected and preserved to the extent practicable. About 1.3 square miles, or about 4 percent of the Town, lay within isolated natural resource areas in 1993.

#### Chapter IV: Man-Made Environment

In order for the land use plan for the Town of Waterford to constitute a sound and realistic guide for making decisions concerning the physical development of the Town, pertinent features of the man-made environment must be given due consideration in plan design. For purposes of the planning effort, the pertinent features of the man-made environment were identified as existing land uses, public facilities, and public utilities, as described in Chapter IV of this report.

Existing Land Uses: In 1990, the Southeastern Wisconsin Regional Planning Commission conducted inventories of the existing land use in the Town of Waterford to determine the type, amount, and spatial distribution of the existing urban development and the rural land uses. The data gathered in this survey were mapped and analyzed to present both land use need and appropriate patterns of future land use development in the Town.

The existing land uses in the Town are shown on Map 20 in Chapter IV of this report and the amount of land devoted to each use in 1990 is provided in Table 17 in the same chapter.

Existing urban development within the Town includes a number of relatively densely developed residential areas along the Fox River and around Buena and Tichigan Lakes and concentrations of residential, commercial, and institutional uses in the old European settlements of Caldwell and Tichigan. As indicated in Table 17, urban land uses, primarily residential, commercial, recreational, governmental, institutional, and transportation uses, encompassed about 3.1 square miles, or about 9 percent of the total area of the Town, in

1990. As further shown on Map 20 and indicated in Table 17, nonurban land uses, agricultural lands, wetlands, woodlands, other open lands, and surface water, comprised about 31.2 square miles, or about 91 percent of the total area of the Town, in 1990. Agricultural lands encompassed about 20.6 square miles in the Town in 1990, accounting for about 66 percent of all nonurban land, and 60 percent of the total area of the Town. As shown on Map 22 of Chapter IV, of the 20.6 square miles of agricultural lands, about 15.6 square miles, or about 76 percent, were identified as prime agricultural lands in the Racine County farmland preservation plan.

Residential Platting Activity: By 1990, 2,144 lots had been created through residential subdivision plats in the Town of Waterford. As shown on Map 21 and in Table 19, from April 1990 through July 1993 an additional 288 residential lots were created through subdivision plats. Of all the existing residential lots in the Town as of July 1993, 379 remain vacant.

Transportation Facilities: Vehicular access to and within the Town is provided through the State, County, and local trunk highways which comprise the arterial street and highway system and local collector and access streets, as shown on Map 23 in Chapter IV. In 1995, as long recommended on regional plans, construction is scheduled to begin on the improvement of STH 36 to a four-lane divided arterial, with completion in 1997.

Public Utilities: Public sanitary sewer service is provided to the Town of Waterford Sanitary District No. 1 by the Western Racine County Sewerage District Treatment Plant. As shown on Map 24 in Chapter IV, the planned service area in the Town of the District sewerage treatment plant encompasses about 5.0 square miles. Of this total, 1.8 square miles, or 36 percent are currently provided with public sanitary sewer service. The planned sewer service area also contains 2.4 square miles of environmentally significant lands. About 0.8 square miles of land thus remain available to accommodate new urban development within the planned sewer service area.

#### Chapter V: Existing Land Use Regulations

Land use development can be guided and shaped in the public interest through the sound application of public land use controls. Existing land use regulations in effect in the Town were examined as they relate to the physical development of the Town and are described in Chapter V of this report. The most



important of these are comprehensive zoning and land division control.

**Zoning Ordinances:** The Town of Waterford is under the jurisdiction of the Racine County general zoning and shoreland-floodplain zoning ordinance. The general zoning provisions are administered jointly by Racine County and the Town of Waterford. Existing zoning districts within the Town are shown on Map 25 in Chapter V. The regulations applicable to each zoning district are summarized in Table 20 in the same chapter.

**Land Division Ordinance:** Land division within the Town is regulated by the Racine County Land Division Control Ordinance and the Town of Waterford Land Division Ordinance. Each of these ordinances contains design standards and data requirements which must be met by all preliminary plats, final plats, and in the case of the Town ordinance, certified survey maps.

#### **Chapter VI: The Land Use Plan**

Chapter VI presents the recommended land use plan for the Town of Waterford for the year 2010. The recommended land use plan for the Town of Waterford is presented graphically on Map 27 in Chapter VI. Quantitative data relative to the plan are provided in Tables 23 and 24 in the same chapter.

Developed in accordance with the identified plan determinants, the Town land use plan seeks to encourage the location of new intensive urban development within the identified planned urban service area; envisions that new residential development outside of the planned urban service area would be permitted to occur only at rural densities; and calls for the preservation of primary environmental corridors and most of the remaining prime agricultural lands within the Town.

**Plan Objectives:** Land use concerns identified at a series of meetings of the Town Land Use Plan Committee, together with pertinent issues identified in the Town of Waterford community survey conducted by the University of Wisconsin-Extension in 1990, were used to develop a set of land use development objectives for the Town. Such objectives relate to the allocation and distribution of land use and the provision of community facilities and supporting services to meet the needs of the existing and probable future resident population of the Town to design year 2010, as well as the preservation of the natural resource base, including the environ-

mentally significant lands, agricultural lands, and nonmetallic mineral deposits of the Town.

**Planned Urban Service Area:** The Town Land Use Plan Committee identified a planned urban service area for the Town that is coterminous with the existing Town of Waterford Sanitary District No. 1 boundary. The Committee further suggested that the planned population level for that service area should not exceed the capacity of the existing sewerage system serving that area.

**Plan Population and Housing Unit Levels:** The residential population level envisioned in the Town of Waterford under the land use plan takes into account recent subdivision platting and existing vacant lots, current building trends, and the planned residential densities of the remaining developable lands in the planned urban service area. On the basis of these considerations, the Town could achieve a resident population level of about 8,700 persons by the year 2010, an increase of approximately 4,400 persons, or about 100 percent, over the 1990 level. Of the approximately 4,400-person increase, about 90 percent is envisioned to occur within the planned urban service area. Approximately 1,525 additional housing units would be added to the 1990 stock of 1,470 housing units in the Town to accommodate these population increases.

**Urban Residential Land Uses:** Additional urban residential land uses would be created through the infilling of existing vacant lots in areas already committed to such uses in platted subdivisions, as well as through the conversion of vacant developable land in designated residential areas located within the planned urban service area. As set forth in Table 24 in Chapter VI, urban residential land uses in the Town of Waterford totaled about 1.7 square miles, or about 5 percent of the Town in 1990. By the year 2010, urban residential lands within the Town are anticipated to increase by 2.3 square miles, or about 140 percent, and thus, by the year 2010 would total 4.0 square miles, or about 12 percent of the total area of the Town.

**Commercial Land Uses:** Additional commercial land uses in the Town would be created through the development of those lands currently zoned for commercial uses and through the development of a new neighborhood shopping center. As indicated in Table 24 in Chapter VI, commercial land uses in the Town of Waterford totaled 37 acres, less than 1 percent of the total area of the Town in 1990. By the year 2010, commercial lands within the Town



are anticipated to increase by 17 acres, or 46 percent, and thus, by the year 2010, commercial lands would total 54 acres, or less than 1 percent of the total area of the Town.

**Community Facilities:** The significant growth in population and household levels envisioned under the plan suggest that there may be the need for the location of an additional fire station in the Town, with this facility being located in the Buena Park area. Expansion of existing school facilities, which may be necessary as growth continues in the Town, can be accommodated in areas adjacent to existing buildings.

**Park and Recreation Land Uses:** Under the land use plan, recommendations regarding Town, County, and State park and recreation facilities are the same as those set forth in the adopted park and open space plan for the Town of Waterford.<sup>1</sup> These include the development of the Fox River parkway, additional acquisition of lands adjacent to the Tichigan wildlife area, and the development of four Town parks. As indicated in Table 24 in Chapter VI, intensive recreational land uses in the Town of Waterford totaled 153 acres, less than 1 percent of the Town, in 1990. By the year 2010, such recreational lands within the Town are anticipated to increase by 81 acres, or about 53 percent, and thus, by the year 2010, intensive recreational lands would total 234 acres, or about 1 percent of the total area of the Town.

**Prime Agricultural Lands:** The land use plan envisions that existing prime agricultural lands in the Town within the planned urban service area would, as market demand and community development policies dictate, be converted to urban uses during the planning period and that existing prime agricultural lands in the Town located outside of the planned urban service area would be preserved in agricultural and agricultural-related uses. As indicated in Table 24 in Chapter VI, prime agricultural lands within the Town of Waterford totaled 15.3 square miles, or about 45 percent of the total area of the Town in 1990. By the year 2010, prime agricultural lands within the Town are anticipated to decrease by about 825 acres, or about 8 percent, and thus, by the year 2010, prime agricultural lands would total 14.0 square miles, or about 41 percent of the total area of the Town.

**Other Agricultural, Rural Residential and Open Lands:** Other agricultural lands not identified as prime agricultural lands and other open lands in the Town within the planned urban service area would, as market demand and community development policies dictate, be converted to urban uses during the planning period. Other agricultural and open lands outside of the urban service area are intended to remain in those uses or could be converted to residential development at rural densities of at least five acres per dwelling unit.

**Environmental Corridors and Isolated Natural Resource Areas:** As shown on Map 27 in Chapter VI, the plan proposes the preservation of the approximately 7.7 square miles of primary environmental corridor within the Town in essentially natural, open uses. These natural areas would thus encompass about 22 percent of the total area of the Town. Development within such corridors would be limited to that needed to accommodate required transportation and utility facilities, compatible outdoor recreation facilities and, on a limited basis, residential uses at rural densities.

Secondary environmental corridors and isolated natural resource areas would be considered for preservation in natural, open use to the extent practicable, or possibly incorporated as drainage-ways or stormwater detention basins in developing areas.

**Nonmetallic Mineral Extraction Uses:** The land use plan recognizes the continued operation of existing sand and gravel extractive operations, as well as the possible expansion of such facilities to adjacent lands subject to appropriate zoning. The land use plan also recognizes that much of the Town is underlaid by potentially useable sand and gravel deposits, of which about 9.0 square miles, or about 26 percent of the total area of the Town, has been identified as extractive reserve, as shown on Map 27 in Chapter VI.

#### Chapter VII: Plan Implementation

The recommended land use plan provides a design for the attainment of the community development objectives. The plan is not complete, however, until the steps necessary to implement that plan have been specified. Attainment of the plan objectives will require the application and modification of certain plan implementation measures as discussed in Chapter VII.

**Plan Adoption:** An important step in plan implementation is the formal adoption of the plan by the

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<sup>1</sup>SEWRPC Community Assistance Planning Report No. 71, *A Park and Open Space Plan for the Town of Waterford*, January 1990.



Town Plan Commission and certification of the adopted plan to the Town Board, pursuant to the State planning enabling legislation. The plan was adopted by the Town of Waterford Plan Commission on October 24, 1994. Upon adoption by the Town Plan Commission, the plan becomes the official guide to be used by the responsible public officials of the Town in making development decisions over time. Following adoption of the plan by the Town Plan Commission, the plan should be submitted to the Racine County Planning and Development Committee and County Board for adoption.

**Zoning Regulations:** Of all the devices presently available for land use plan implementation, perhaps the most important is the zoning ordinance. Land use regulation by zoning in the Town of Waterford is a joint County-Town function, involving the administration of the Racine County Zoning Ordinance and the Racine County Shoreland-Floodplain Zoning Ordinance. The Racine County zoning districts applicable to the Town are listed and their regulations summarized in Table 20 in Chapter V of this report. The current application of these districts within the Town is shown on Map 25 in the same chapter.

In order for the Town to fully implement the recommended land use plan, changes in the existing County zoning ordinance will be required. These changes are of two types: 1) modifications to the text of the zoning ordinance to add an agricultural zoning district that could accommodate rural residential development with an overall density of five acres or more per housing unit and to add an upland conservancy district that could accommodate rural residential development with an overall density of five acres or more per housing unit, while preserving the integrity of the existing natural resources, 2) revisions to the official zoning Map to reflect the land use plan recommendations. Recommendations for zoning redistricting to implement the Town land use plan are depicted on Map 28 in Chapter VII of this report. When the land use plan has been adopted, the Town Board should formally petition the Racine County Board to amend the

Town zoning map. All zoning changes in the Town must be approved by both the Town Board and the County Board.

The recommended zoning districts shown on Map 28 in Chapter VII to a large extent represent an accommodation of existing land uses in the Town, with appropriate consideration given to existing parcel sizes. Changes from the existing zoning district map are proposed, the most important of which include the placement of the upland portions of the primary and secondary environmental corridors and isolated natural resource areas within the Town into the C-2, Upland Resource Conservation District; the placement of the lowland portion of the aforementioned corridors into the C-1, Resource Conservation District; the placement of all prime agricultural lands outside the planned urban service area into the A-1, General Farming District; and the placement of a portion of the remaining nonurban lands in the Town outside of the planned urban service area into the A-5, Agricultural/Rural Residential District, all as delineated in the Town land use plan.

## CONCLUSIONS

The principal function of the Town land use plan is to provide information that the responsible public officials can use and recommendations that such officials can consider over time in making decisions about growth and development in the Town. The land use plan recommends the preservation of existing environmentally sensitive areas and prime agricultural lands. At the same time, the land use plan provides for residential and commercial growth that is compatible with and reinforces the stated development objectives of the Town.

The recommended land use plan, together with the supporting implementation measures, provides an important means for promoting the orderly development of the Town of Waterford in accordance with the public interest. To the degree that the plan is implemented over time, a safer, more healthful and attractive, as well as more efficient, environment for life will be created within the Town.



## **APPENDICES**



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## **Appendix A**

### **TOWN PLAN COMMISSION RESOLUTION ADOPTING THE TOWN OF WATERFORD LAND USE PLAN**

WHEREAS, the Town of Waterford, pursuant to the provisions of Section 60.10(2)(c) of the Wisconsin Statutes, has been authorized to exercise village powers; and

WHEREAS, the Town of Waterford, pursuant to the provisions of Section 62.23 of the Wisconsin Statutes, has created a Town Plan Commission; and

WHEREAS, it is the duty and function of the Town Plan Commission, pursuant to Section 62.23(2) of the Wisconsin Statutes, to make and adopt a master plan for the physical development of the Town of Waterford; and

WHEREAS, the Town Board of the Town of Waterford designated a Town of Waterford Land Use Plan Committee, the membership of that Committee comprised of both public officials and private citizens with a variety of backgrounds, including members of the Town Board, Town Plan Commission, the Town of Waterford Sanitary District No. 1, representatives of business and education, and representatives of concerned citizens of the Town; and

WHEREAS, the Town of Waterford requested Racine County and the Southeastern Wisconsin Regional Planning Commission to assist that Committee in the preparation of a land use plan for the Town; which plan includes:

1. Collection, compilation, processing, and analyses of various types of demographic, natural resource, recreation and open space, land use, transportation and other information pertaining to the Town.
2. A forecast of growth and change.
3. A land use and arterial street system plan map.
4. Suggested revisions to the Racine County Zoning Ordinance and Map for the implementation of the recommended plan; and

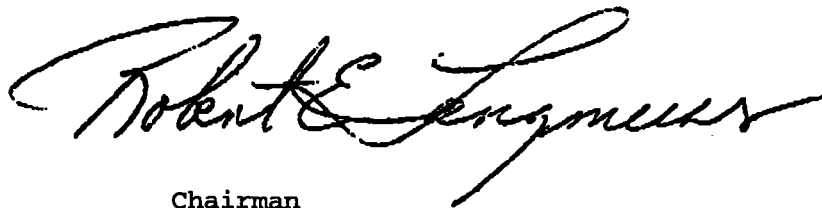
WHEREAS, the aforementioned inventories, analyses, objectives, forecasts, land use plan, and implementing ordinance revisions are set forth in a published report entitled SEWRPC Community Assistance Planning Report No. 217, A Land Use Plan for the Town of Waterford: 2010; and

WHEREAS, the Town Plan Commission considers the plan to be a valuable guide to the future development of the Town.

NOW, THEREFORE, BE IT RESOLVED, that pursuant to Section 62.23(3)(b) of the Wisconsin Statutes, the Town of Waterford Plan Commission on the 24th day of October, 1994, hereby adopts SEWRPC Community Assistance Planning Report No. 217, entitled A Land Use Plan for the Town of Waterford: 2010, as a guide for the future development of the Town of Waterford.

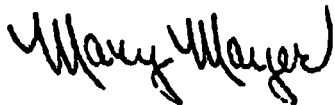


BE IT FURTHER RESOLVED, that the Secretary of the Town of Waterford Plan Commission transmit a certified copy of this resolution to the Town Board of the Town of Waterford.



Chairman  
Town of Waterford Plan Commission

ATTEST:



Secretary  
Town of Waterford Plan Commission



## Appendix B

### RECOMMENDED CHANGES TO THE RACINE COUNTY ZONING ORDINANCE

1. It is recommended that an A-5, Agricultural/Rural Residential, and a C-2, Upland Resource Conservation, zoning districts be included in the Racine County Zoning Ordinance.

#### A-5, AGRICULTURAL/RURAL RESIDENTIAL DISTRICT

The primary purpose of this district is to provide for, maintain, preserve, and enhance agricultural lands historically utilized for crop production but which are not included within the A-1, General Farming I District, and which are generally best suited for smaller farm units, including truck farming, horse farming, hobby farming, orchards, and other similar agricultural-related activity. The district also permits the creation of large rural residential-type lots.

Principal Uses. Apiculture, dairying; floriculture; forestry; grazing; greenhouses; hay; livestock raising; orchards; paddocks; pasturage; plant nurseries; poultry raising; raising of cash grain crops, mint, grass, seed crops, silage, tree fruits, nuts, and berries, and vegetables; stables; truck farming; viticulture; and single-family dwelling with a garage.

Conditional Uses. Animal hospitals; commercial egg production; commercial raising of animals, such as dogs, foxes, goats, mink, pigs and rabbits; condenseries; creameries; feed lots; hatching or butchering of fowl; airports, airstrips, and landing fields for farm or personal use only; migratory laborers' housing; sod farming; and clustered residential developments.

#### Lot

Width	Minimum	300 Feet
Area	Minimum	5 Acres

#### Building

Dwelling	Height	Maximum	28 Feet
Residential			
Accessory Structures	Height	Maximum	15 Feet



Agricultural and Other Structures	Height	Maximum	Two (2) times the distance from the nearest lot line
<u>Yards</u>			
<u>ALL</u> Structures	Rear	Minimum	25 Feet
	Side	Minimum	25 Feet
	Street	Minimum	75 Feet
	Shore	Minimum	75 Feet

#### C-2. UPLAND RESOURCE CONSERVATION DISTRICT

The primary purpose of this district is to preserve, protect, enhance, and restore all significant woodlands, areas of rough topography, and related scenic areas within the County; and to provide for limited residential development at densities not to exceed one dwelling unit per five acres. Regulations of these areas will serve to control erosion and sedimentation and will promote and maintain the natural beauty of the County, while seeking to assure the preservation and protection of areas of significant topography, natural watersheds, ground and surface water, potential recreation sites, wildlife habitat, and other natural resource characteristics that contribute to the environmental quality of the County.

Principal Uses. Farming and related agricultural uses when conducted in accordance with soil conservation service standards; hunting and fishing; forest preservation; forest and game management; preservation of scenic, historic and scientific areas; park and recreation areas; arboreta; botanical gardens; one single-family dwelling.

Conditional Uses. Hunting and fishing clubs; recreation camps, public or private campgrounds; gardening, tool, and storage sheds incidental to the residential use; general farm buildings, including barns, silos, sheds and storage bins; private garages and carports; clustered residential developments; and utilities.

<u>Lot</u>			
Width	Minimum	300 Feet	
Area	Minimum	5 Acres	

<u>Building</u>			
Dwelling	Height	Maximum	28 Feet
Residential			
Accessory Structures	Height	Maximum	15 Feet



Agricultural and Other Structures	Height	Maximum	Two (2) times the distance from the nearest lot line
<u>Yards</u>			
<u>ALL</u> Structures	Rear	Minimum	100 Feet
	Side	Minimum	25 Feet
	Street	Minimum	100 Feet
	Shore	Minimum	75 Feet

TREE CUTTING AND SHRUBBERY CLEARING LIMITED:

Lands lying within the Upland Resource Conservation District shall not be clear cut of trees, shrubbery, or underbrush. No more than 20 percent of the natural vegetation shall be removed from a parcel. Normal pruning, trimming, and shearing of vegetation, removal of dead, diseased, or insect infested vegetation, and silvicultural thinning conducted under the recommendation of a forester shall be exempt from this restriction.

2. In order to allow cluster residential development in the A-5 and C-2 districts, it is recommended that cluster residential development be added as a conditional use under residential uses in the Racine County Zoning Ordinance as follows:

Cluster residential developments in the A-5 and C-2 Districts shall be permitted as conditional uses. The district regulations may be varied provided that adequate open space shall be provided so that the average intensity and density of land use shall be no greater than one dwelling unit per five acres. The proper preservation, care, and maintenance by the original and all subsequent owners of the exterior design; all common structures, facilities, utilities, access, and open spaces shall be assured by deed restrictions enforceable by the Town.

Development

Area	Minimum	20 acres
------	---------	----------

Lot

Width	Minimum	150 Feet
Area	Minimum	40,000 Square Feet

Building

Dwelling	Height	Maximum	28 Feet
----------	--------	---------	---------

Residential Accessory Structures	Height	Maximum	15 Feet
-------------------------------------	--------	---------	---------



Agricultural and Other Structures		Height	Maximum	Two (2) times the distance from the nearest lot line
<u>Yards</u>				
<u>ALL</u> Structures		Rear	Minimum	50 Feet
		Side	Minimum	15 Feet
		Street	Minimum	50 Feet
		Shore	Minimum	75 Feet



## Appendix C

### GUIDELINES FOR DEVELOPMENT CONSIDERED COMPATIBLE WITH ENVIRONMENTAL CORRIDORS

Component Natural Resource and Related Features within Environmental Corridors <sup>a</sup>	Permitted Development															Rural Density Single-Family Residential Development (see General Development Guidelines below)
	Transportation and Utility Facilities (see General Development Guidelines below)				Recreational Facilities (see General Development Guidelines below)											
	Streets and Highways	Utility Lines and Related Facilities	Engineered Stormwater Management Facilities	Engineered Flood Control Facilities <sup>b</sup>	Trail <sup>c</sup>	Picnic Area	Family Camping <sup>d</sup>	Swimming Beach	Boat Access	Ski Hill	Golf	Playfield	Hard Surface Courts	Parking	Buildings	
Lakes, Rivers, Streams . . .	-- <sup>e</sup>	-- <sup>f,g</sup>	--	-- <sup>h</sup>	-- <sup>i</sup>	--	--	X	X	--	--	--	--	--	--	--
Shoreline . . . . .	X	X	X	X	X	X	--	X	X	--	X	--	--	X	--	--
Floodplain . . . . .	-- <sup>j</sup>	X	X	X	X	X	--	X	X	--	X	X	--	X	X	--
Wetland <sup>k</sup> . . . . .	-- <sup>j</sup>	X	X	X	X <sup>l</sup>	--	--	--	X	--	--	--	--	--	--	--
Wet Soils . . . . .	X	X	X	X	X	--	--	X	X	--	X	--	--	X	--	--
Woodland . . . . .	X	X	X	--	X	X	X	--	X	X	X	X	X	X	X	X
Wildlife Habitat . . . . .	X	X	X	--	X <sup>m</sup>	X	X	--	X	X	X	X	X	X	X	X
Steep Slope . . . . .	X	X	--	--	-- <sup>m</sup>	--	--	--	--	X <sup>n</sup>	X	--	--	--	--	--
Prairie . . . . .	--	-- <sup>g</sup>	--	--	-- <sup>m</sup>	--	--	--	--	--	--	--	--	--	--	--
Park . . . . .	X	X	X	X	X <sup>m</sup>	X	X	X	X	X	X	X	X	X	X	--
Historic Site . . . . .	--	-- <sup>g</sup>	--	--	-- <sup>m</sup>	--	--	--	--	--	--	--	--	--	--	--
Scenic Viewpoint . . . . .	X	X	--	--	X <sup>m</sup>	X	X	--	X	X	X	--	--	X	X	X
Scientific or Natural Area Site . . . . .	--	-- <sup>g</sup>	--	--	-- <sup>m</sup>	--	--	--	--	--	--	--	--	--	--	--

NOTE: An "X" indicates that facility development is permitted within the specified natural resource feature. In those portions of the environmental corridors having more than one of the listed natural resource features, the natural resource feature with the most restrictive development limitation should take precedence.

#### GENERAL DEVELOPMENT GUIDELINES

- **Transportation and Utility Facilities:** All transportation and utility facilities proposed to be located within the important natural resources should be evaluated on a case-by-case basis to consider alternative locations for such facilities. If it is determined that such facilities should be located within natural resources, development activities should be sensitive to these resources, and, to the extent possible following construction, such resources should be restored to preconstruction conditions.

The above table presents development guidelines for major transportation and utility facilities. These guidelines may be extended to other similar facilities not specifically listed in the table.

- **Recreational Facilities:** In general, no more than 20 percent of the total environmental corridor area should be developed for recreational facilities. Furthermore, no more than 20 percent of the environmental corridor area consisting of upland wildlife habitat and woodlands should be developed for recreational facilities. It is recognized, however, that in certain cases these percentages may be exceeded in efforts to accommodate needed public recreational and game and fish management facilities within appropriate natural settings.

The above table presents development guidelines for major recreational facilities. These guidelines may be extended to other similar facilities not specifically listed in the table.



- **Single-Family Residential Development:** Limited single-family residential development within the environmental corridor may occur in various forms ranging from development on large rural estate lots to clustered single-family development. The maximum number of housing units accommodated at a proposed development site within the environmental corridor should be limited to the number determined by dividing the total corridor area within the site less the area covered by surface water and wetlands by five. Individual lots should contain a minimum of approximately one acre of land determined to be developable for each housing unit--with developable lands being defined to include upland wildlife habitat and woodlands, but to exclude areas of steep slope.

Single-family development on existing lots of record should be permitted as provided for under county or local zoning at the time of adoption of the land use plan.

<sup>a</sup> The natural resource and related features are defined as follows:

**Lakes, Rivers, and Streams:** Includes all lakes greater than five acres in area and all perennial and intermittent streams as shown on U. S. Geological Survey quadrangle maps.

**Shoreline:** Includes a band 50 feet in depth along both sides of intermittent streams; a band 75 feet in depth along both sides of perennial streams; a band 75 feet in depth around lakes; and a band 200 feet in depth along the Lake Michigan shoreline.

**Floodplain:** Includes areas, excluding stream channels and lake beds, subject to inundation by the 100-year recurrence interval flood event.

**Wetlands:** Includes areas one acre or more in size in which the water table is at, near, or above the land surface and which are characterized by both hydric soils and by the growth of sedges, cattails, and other wetland vegetation.

**Wet Soils:** Includes areas covered by wet, poorly drained, and organic soils.

**Woodlands:** Includes areas one acre or more in size having 17 or more deciduous trees per acre with at least a 50 percent canopy cover as well as coniferous tree plantations and reforestation projects; excludes lowland woodlands, such as tamarack swamps, which are classified as wetlands.

**Wildlife Habitat:** Includes areas devoted to natural open uses of a size and with a vegetative cover capable of supporting a balanced diversity of wildlife.

**Steep Slope:** Includes areas with land slopes of 12 percent or greater.

**Prairies:** Includes open, generally treeless areas which are dominated by native grasses.

**Park:** Includes public and nonpublic park and open space sites.

**Historic Site:** Includes sites listed on the National Register of Historic Places.

**Scenic Viewpoint:** Includes vantage points from which a diversity of natural features such as surface waters, wetlands, woodlands, and agricultural lands can be observed.

**Scientific and Natural Area Sites:** Includes tracts of land and water so little modified by man's activity that they contain intact native plant and animal communities believed to be representative of the presettlement landscape.

<sup>b</sup> Includes such improvements as stream channel modifications and such facilities as dams.

<sup>c</sup> Includes trails for such activities as hiking, bicycling, cross-country skiing, nature study, and horseback riding, and excludes all motorized trail activities. It should be recognized that trails for motorized activities such as snowmobiling that are located outside the environmental corridors may of necessity have to cross environmental corridor lands. Proposals for such crossings should be evaluated on a case-by-case basis, and if it is determined that they are necessary, such trail crossings should be designed to ensure minimum disturbance of the natural resources.

<sup>d</sup> Includes areas intended to accommodate camping in tents, trailers, or recreational vehicles which remain at the site for short periods of time--typically ranging from an overnight to a two-week stay.

<sup>e</sup> It should be recognized that certain transportation facilities such as bridges may be constructed over such resources.

<sup>f</sup> It should be recognized that utility facilities such as sanitary sewers may be located in or under such resources.

<sup>g</sup> It should be recognized that electric power transmission lines and similar lines may be suspended over such resources.

<sup>h</sup> It should be recognized that certain flood control facilities such as dams and channel modifications may need to be provided in such resources to reduce or eliminate flood damage to existing development.

<sup>i</sup> It should be recognized that bridges for trail facilities may be constructed over such resources.

<sup>j</sup> It should be recognized that streets and highways may cross such resources. Where this occurs, there should be no net loss of flood storage capacity or wetlands.

<sup>k</sup> Any development affecting wetlands must adhere to the water quality standards for wetlands established under Chapter NR 103 of the Wisconsin Administrative Code.

<sup>l</sup> Only an appropriately designed boardwalk/trail should be permitted.

<sup>m</sup> Only appropriately designed and located hiking and cross country ski trails should be permitted.

<sup>n</sup> Only an appropriately designed, vegetated, and maintained ski hill should be permitted.

Source: SEWRPC.





VERNON  
WATERFORD  
Caldwell  
FOX  
TICHIGAN  
LAKE  
BUENA  
PARK  
WATERFORD  
ROCHESTER  
FOX RIVER  
AIRPORT  
HONEY CREEK  
WILDLIFE

AMENDMENT TO THE

# **LAND USE PLAN FOR THE TOWN OF WATERFORD RACINE COUNTY WISCONSIN**

RACINE COUNTY DIVISION OF PLANNING AND DEVELOPMENT  
SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION



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REGIONAL PLANNING COMMISSION**

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Special acknowledgement is due SEWRPC Principal Planner  
David A. Schilling for his contributions to this report.



**AMENDMENT TO THE  
LAND USE PLAN FOR  
THE TOWN OF WATERFORD  
RACINE COUNTY, WISCONSIN**

Prepared by the

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September 2001



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## **AMENDMENT TO THE LAND USE PLAN FOR THE TOWN OF WATERFORD**

### **INTRODUCTION**

A land use plan was prepared for the Town of Waterford in 1994 with the assistance of Racine County and the Southeastern Wisconsin Regional Planning Commission. It is set forth in SEWRPC Community Assistance Planning Report No. 217, *A Land Use Plan for the Town of Waterford: 2010*, May 1995. The plan was prepared under the guidance of the Town of Waterford Land Use Plan Committee and was adopted by the Town Plan Commission in October 1994 and subsequently by the Town Board in February 1998.

The Town plan was intended to be used as a guide to help officials make decisions relating to development proposals. Good planning practice suggests that such community plans be re-evaluated regularly to ensure that they continue to reflect changing conditions and local land use objectives. With this in mind, the Town Plan Commission in 2001 re-evaluated the Town land use plan and determined that it should be amended in certain respects. The Town Plan Commission was assisted by Racine County and the Regional Planning Commission in this effort.

This report presents the amended land use plan for the Town of Waterford that resulted from the plan re-evaluation and revision process. The amended plan modifies slightly the proposed pattern of land use in the Town. The amended plan takes into account population forecasts through the year 2020 as well as changes in corporate limits resulting from recent annexation of former Town territory by the Village of Waterford. In addition to presenting an amended land use plan, this report discusses certain additional plan implementation measures that are available to the Town.

It should be noted the year 2010 Town of Waterford land use plan was developed based upon an extensive data base regarding the population, economy, and built and natural environments of the Town. This data base has been extensively documented in the aforementioned Town of Waterford planning report, which remains an important reference document.

### **2020 LAND USE PLAN**

The recommended land use plan for the Town of Waterford for the design year 2020 is presented graphically on Map 1. Quantitative data relative to the plan are provided in Table 1.

The 2020 land use plan for the Town of Waterford is essentially the same as the existing 2010 plan with the following exceptions:

- Lands included in the 2010 plan, which have recently been annexed by the Village of Waterford, are excluded from the 2020 planning area.
- The location of the proposed neighborhood shopping center has been changed from the southwest quadrant of the intersection of STH 164 and North Lake Drive to the northeast and northwest quadrants of that intersection. The Town Plan Commission anticipates that this center will be developed with specialty service businesses (e.g. small engine repair, mini-storage) and not as a typical shopping center with a grocery store, bank, and related services.



- The area recommended for medium-low density residential uses at the intersection of CTH L and CTH O was enlarged to include existing adjacent residential lots.
- The area recommended for low-density residential uses at the intersection of CTH O and Pleasant Road was enlarged to include existing adjacent residential lots.
- The area recommended for extractive uses in the center of U. S. Public Land Survey Section 7 was enlarged to reflect the expansion of such uses.
- The area recommended for prime agricultural uses in the southwest quadrant of the intersection of Hill Valley Road and Maple Road was changed to extractive uses to reflect existing use.
- The plan map was refined to reflect four areas of existing commercial businesses in the Tichigan Lake area.
- The area recommended for commercial uses at the intersection of Kramer Drive and STH 36 was enlarged to reflect the expansion of such uses.
- The recommended use of an area along STH 164 in the northeast quarter of U. S. Public Land Survey Section 1 (existing salvage/recycling business) was changed from commercial to low-density residential to reflect the long term goals of the Town.
- The recommended uses of an area along STH 20, west of and adjacent to the Village of Waterford, was changed from extractive, other agricultural, rural residential, and open land, and prime agricultural land to suburban II residential (3.0 to 4.99 acres per dwelling unit). This is intended to provide a buffer/transition area between the Village of Waterford and the rural area of the Town.

In addition to the site specific changes described above, the plan also recommends that consideration be given to accommodating a joint private golf course/residential development in the Town. Coincidentally, the recently completed park and open space plan for Racine County<sup>1</sup> identified a need for additional privately owned golf courses in the County by the year 2020. While a specific site has not been identified for this purpose in the Town plan, any site considered for such development should generally meet the following criteria: 1) the site should encompass at least 200 acres; 2) the site should contain natural resource amenities such as woodlands, surface water, and uneven topography which provide a high quality setting for golf and the associated residential development, and at the same time the site should be able to be developed without significant adverse impacts on these resources; and 3) the site should be located along or near a state trunk highway or interstate highway to provide for easy accessibility. Associated residential development would be limited to an overall density of one housing unit per five acres within the development area, consistent with the rural residential development recommendations of the plan.

As shown on Map 1, the plan continues to identify an extractive resource area. This is intended to reflect areas of the Town underlain by potentially useable sand and gravel deposits. This is for informational purposes only and not a commitment by Town officials to allow for such uses.

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<sup>1</sup> Documented in SEWRPC Community Assistance Planning Report No. 134 (2<sup>nd</sup> Edition), A Park and Open Space Plan for Racine County.



The land use pattern shown on Map 1 may be expected to accommodate growth and development in the Town through the year 2020 as envisioned in Regional Planning Commission projections. In 1997, the Regional planning Commission completed work on the fourth generation regional land use plan, as set forth in SEWRPC Planning Report No. 45, *A Regional Land Use Plan for Southeastern Wisconsin: 2020*. As part of the regional plan, two alternative population projections were prepared. One projection is based upon an intermediate-growth scenario with a centralized development pattern. The other projection is based on a higher-growth scenario with a decentralized development pattern. Under the alternative land use plans prepared, year 2020 population levels for the Town would range from about 6,000 persons under the intermediate-growth centralized regional plan, to as high as 8,900 persons under the high-growth plan. Current growth trends in the Town indicate that the year 2020 population in the Town would reach a level approximating the level envisioned under the high-growth plan. The 2020 land use plan for the Town would accommodate that range of possibilities.

## IMPLEMENTATION

Many of the land use plan implementation measures available to the Town have been documented in the aforementioned Town of Waterford planning report. These include plan adoption; subdivision plat and certified survey map review; zoning; official mapping; and precise neighborhood unit planning. As part of this plan amendment, the Town Plan Commission is adding other plan implementation measures available to the Town that were not included in the existing Town plan. A description of those measures follows.

### Conservation Subdivision Design

Conservation subdivision design, or rural cluster development, involves the grouping of dwellings on a portion of a development tract, preserving the remainder of the parcel in open space. Management options for the open space areas include, among others, preservation of existing natural features, restoration of natural conditions, and continued agricultural use. The open space may be owned by a homeowners' association, the local municipality, the State, Racine County, a private conservation organization, or the original landowner. Conservation easements and deed restrictions should be used to protect the common open space from future conversion to more intensive uses.<sup>2</sup>

Conservation subdivision design offers many benefits over conventional development involving the same number of dwelling units. Conservation subdivision design can help preserve the rural character of the landscape, preserve significant natural features, preserve agricultural land, and achieve better site design. Infrastructure installation costs borne by the developer and public infrastructure maintenance costs may be reduced due to shortened street and utility lengths.

It should be noted that the A-1, General Farming I district, and the C-2, Upland Resource Conservation district of the Racine County zoning ordinance are the only zoning districts that provide for the development of rural areas utilizing conservation subdivision designs. Consequently, it is recommended that the Town of Waterford and Racine County initiate action to create a PRD, Planned Rural Development Overlay District, in the Racine County Zoning Ordinance. The PRD would provide the Town and County a means, through zoning, of accommodating this type of development in other zoning districts as appropriate. Conservation subdivision designs would be required to maintain 70 percent of the parcel in open space or agricultural uses thereby providing for limited residential development while preserving the rural character of the Town.

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<sup>2</sup> See SEWRPC Planning Guide No. 7, December 1996, for additional information regarding the rural cluster development concept and the manner in which it may be applied as a planning and zoning technique.



## **Purchase of Development Rights**

Purchase of development rights programs, or PDR programs, are intended to ensure the long-term preservation of agricultural lands. Under a PDR program, the owner of farmland receives a payment for relinquishing rights to development. Deed restrictions are used to ensure that the lands concerned remain in agricultural or other open use. Such restrictions are attached to the land and remain in effect regardless of future sale or other transfer of the land.

PDR programs may be administered and funded by state, county, or local units of government, land trusts and other private organizations, or combinations thereof. The amounts paid to farmland owners under PDR programs may be calculated on the basis of the number of dwelling units permitted under existing zoning, on the basis of the difference between the market value of the land and its value solely for agricultural purposes, or on some other basis. The primary drawback of the PDR programs is the potentially high cost.

PDR programs can provide assurance that farmland will be permanently retained in open use. Landowners receive a potentially substantial cash payment, while retaining all other rights to the land, including the right to continue farming. The money paid to the landowner may be used for any purpose, such as debt reduction, capital improvement to the farm, or retirement income. Lands included in a PDR program remain on the tax roll and continue to generate property taxes. Since the land remains in private ownership, the public sector does not incur any land management responsibilities.

It is recommended that the Town consider undertaking a separate study to determine the feasibility of establishing a purchase of development rights program in the Town of Waterford.

## **Stormwater Management Planning**

As the Town of Waterford has become more urbanized over time, stormwater runoff has become an increasing problem. The recently completed land and water resource management plan for Racine County<sup>3</sup> recommends that detailed municipally based stormwater management plans be prepared. Such plans take into consideration both existing and planned land use conditions and recommend specific stormwater management facilities and the long-term maintenance responsibilities for those facilities. It is recommended that the Town enlist the help of a qualified engineering firm to assist the Town in the preparation of a town-wide stormwater management plan.

## **Intergovernmental Cooperation**

The land use plan presented in this report includes land use recommendations for the entire civil Town of Waterford. The Town abuts the Village of Waterford and is within close proximity of the City of Muskego and the Village of Mukwonago. Under Wisconsin law, cities and villages have been granted a considerable measure of influence over development in adjacent town areas. Incorporated communities have extraterritorial subdivision plat approval authority; they may include adjacent unincorporated areas in their local master plans; they may administer extraterritorial zoning jointly with the adjacent town, where the incorporated community and adjacent town agree to such an arrangement; and ultimately, they may annex unincorporated areas.

It is recommended that the Town of Waterford and the neighboring communities take a cooperative approach to planning and decision-making regarding future land use in areas of mutual concern.

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<sup>3</sup>Documented in SEWRPC Community Assistance Planning Report No. 259, *A Land and Water Resource Management Plan for Racine County: 2000-2004*, September 2000.



Activities in this respect could range from periodic meetings of Town and municipal officials for the purpose of discussing land use matters, to preparing and executing formal agreements regarding future boundaries and arrangements for the provision of public services, as provided under Sections 66.0307 and 66.0311 of the Wisconsin Statutes. Such cooperative efforts increase the likelihood for coordinated development along the boundary areas, achieving, insofar as practicable, both town and municipal land use objectives.

## **RELATIONSHIP TO STATE COMPREHENSIVE PLANNING LAW**

The Town land use plan, as amended, constitutes one element, the land use plan element, of the Town Master Plan. The Wisconsin Legislature in 1999 adopted new comprehensive planning legislation, which requires any action of a local government that affects land use, such as enforcement of zoning or subdivision ordinances, to be consistent with the community's comprehensive plan beginning on January 1, 2010. A new definition of a comprehensive plan, consisting of nine elements, was adopted as Section 66.1001 of the Wisconsin Statutes. The legislation also sets forth new requirements for public participation in the development of a comprehensive plan and requires that such a plan be adopted by ordinance of the local governing body.

The new legislation does not affect the ability of local governments to prepare and adopt master plans, or elements thereof, prior to 2010. However, this plan should be evaluated prior to 2010, and necessary changes made both to reflect new or changed development conditions and local land use objectives, and to incorporate additional information needed to comply with the new comprehensive planning legislation.



Map 1

RECOMMENDED LAND USE PLAN FOR THE TOWN OF WATERFORD:2020

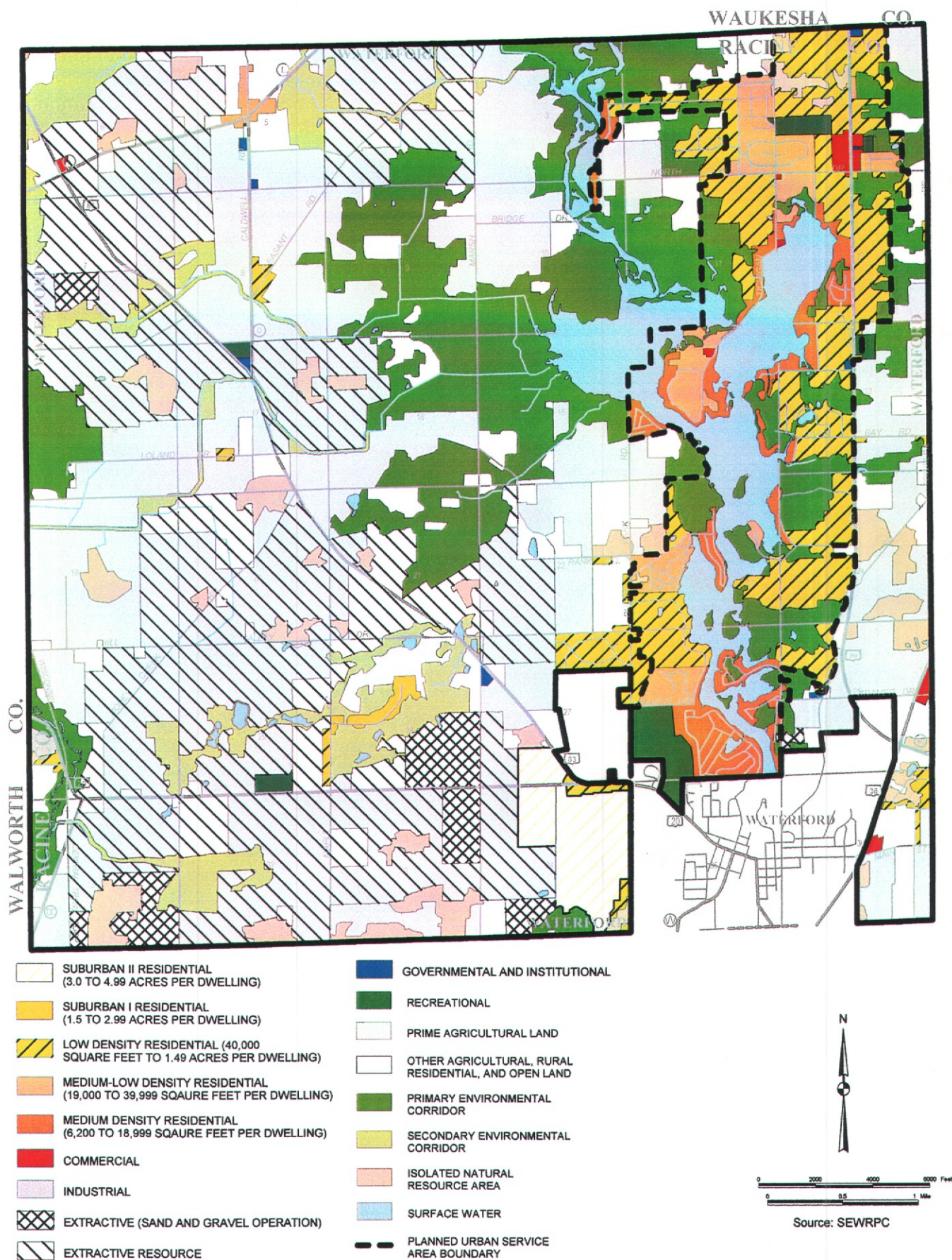




Table 1

## PLANNED LAND USE IN THE TOWN OF WATERFORD: 2020

Land Use Category <sup>a</sup>	1990		Planned Change: 1990-2020		2020	
	Acres	Percent of Total	Acres	Percent	Acres	Percent of Total
Urban						
Residential						
Suburban-Density II (3.0 to 4.99 acres per dwelling)	--	--	364	--	364	1.7
Suburban-Density I (1.5 to 2.99 acres per dwelling) .....	35	0.1	--	--	35	0.1
Low-Density (40,000 square feet to 1.49 acres per dwelling) .....	489	2.3	1,113	227.6	1,602	7.4
Medium-Low-Density (19,000 to 39,999 square feet per dwelling) .....	187	0.9	283	151.3	470	2.2
Medium-Density (6,200 to 18,999 square feet per dwelling) .....	357	1.6	87	24.4	444	2.1
Subtotal	1,068	4.9	1,847	172.9	2,915	13.5
Commercial .....	37	0.2	31	83.8	68	0.3
Industrial .....	23	0.1	--	--	23	0.1
Governmental and Institutional .....	20	0.1	2	10.0	22	0.1
Recreational .....	153	0.7	81	52.9	234	1.1
Other Urban .....	21	0.1	--	--	21	0.1
Subtotal	1,322	6.1	1,961	148.3	3,283	15.2
Nonurban						
Prime Agricultural Lands .....	9,437	43.8	-1,047	-11.1	8,390	38.9
Other Agricultural, Rural Residential, and Open Space Lands .....	3,821	17.7	-1,256	-32.9	2,565	11.9
Primary Environmental Corridors .....	4,882	22.7	48	1.0	4,930	22.9
Secondary Environmental Corridors .....	1,111	5.2	--	--	1,111	5.2
Isolated Natural Resource Areas .....	833	3.9	--	--	833	3.9
Extrative Uses .....	139	0.6	294	211.5	433	2.0
Subtotal	20,223	93.9	-1,961	--	18,262	84.8
Total	21,545	100.0	--	--	21,545	100.0

<sup>a</sup>Street and parking areas are included in the associated land use categories

Source: SEWRPC.