

A LAND USE AND TRAFFIC CIRCULATION PLAN FOR THE VILLAGE OF HARTLAND: 2000

WAUKESHA COUNTY WISCONSIN

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Special acknowledgement is due Mr. Richard B. Untch, Principal Planner, for his contribution to the preparation of this report.

COMMUNITY ASSISTANCE PLANNING REPORT
NUMBER 49

A LAND USE AND TRAFFIC CIRCULATION PLAN
FOR THE VILLAGE OF HARTLAND: 2000

VILLAGE OF HARTLAND
WAUKESHA COUNTY
WISCONSIN

Prepared by the

Southeastern Wisconsin Regional Planning Commission
P. O. Box 769
Old Courthouse
916 N. East Avenue
Waukesha, Wisconsin 53187

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July 1981

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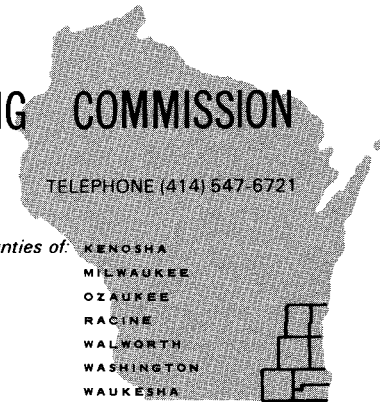
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July 1, 1981

Mr. Kenneth Leque
President
Village of Hartland
210 Cottonwood Avenue
Hartland, Wisconsin 53029

Dear Mr. Leque:

In March of 1978, the Village of Hartland requested the Southeastern Wisconsin Regional Planning Commission to prepare a land use plan, street system plan, and plan implementation devices for the Village. The Regional Planning Commission staff, working with the Village Plan Commission, has now completed all of the technical work required to prepare the plans and is pleased to transmit those plans for consideration and adoption by the Village Plan Commission and the Village Board.

In addition to setting forth a recommended land use plan, recommended street system plan, and plan implementation devices for the Village, this report presents pertinent information on the present stage of development in the Village, including information on population, employment, land use, sanitary sewerage, water supply, and transportation. In addition, information is presented on the topography and drainage pattern, soils, flood hazard areas, woodlands, wetlands, wildlife habitat areas, prime agricultural areas and environmental corridor areas of the Village and environs, all of which constitute important considerations in any local planning effort. The recommended land use and street system plans are consistent with regional as well as local development objectives and are intended to serve as a point of departure for the making of day-to-day development decisions by village officials and as a basis for developing more detailed plans and plan implementation devices.

The Regional Planning Commission is appreciative of the assistance offered by the Village Board and the Village Plan Commission in the preparation of this report. The Commission staff stands ready to assist the Village in presenting the information and recommendations contained in this report to the public for its review and evaluation, and in adopting and implementing the recommendations contained herein.

Sincerely,

Kurt W. Bauer
Executive Director

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Chapter I

INTRODUCTION

BACKGROUND

The state municipal planning enabling act, as set forth in Section 62.23 of the Wisconsin Statutes, provides for the creation of municipal 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, including any areas outside of its boundaries which bear relation to the 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. As the Statutes indicate, the master plan shall be made with the general purpose of guiding and accomplishing a coordinated, adjusted, and harmonious development of the municipality which will best promote, in accordance with existing and future needs, the public health, safety, morals, order, prosperity, and general welfare, as well as fostering efficiency and economy in the process of development.

Perhaps the most basic and important element of any comprehensive plan is the land use plan, for it forms the basis for all of the other elements of the plan, such as the transportation, sanitary sewerage, water supply, park and open space, and storm water drainage elements. Recognizing this importance and acting in accordance with its statutory charge, the Village of Hartland, on September 21, 1977, requested the Regional Planning Commission to assist the Village Plan Commission in the development of a land use plan for the Village, together with an implementing zoning ordinance. The necessary planning work was initiated in February of 1979 and completed in June of 1980. This report sets forth the findings and recommendations of the planning effort undertaken in response to the Village request. It is intended to assist in defining the land use development objectives of the Village and in identifying and attaining a spatial distribution of land use development in the Village and its environs which will achieve these land use objectives over time.

The planning effort involved extensive inventories and analyses of the factors and conditions affecting

land use development within the study area, including extensive inventories of the existing cultural and natural resource base elements of the Village and surrounding area, the formulation of a set of recommended land use development objectives for the Village, the preparation of forecasts of population and economic activity in the planning area, the preparation of alternative land use plans which could accommodate the forecast population and employment levels, and the selection of a recommended plan which best meets the Village objectives. The plan, when adopted by the Village Plan Commission and Village Board, is intended to serve as a guide to land use development decisions made within the planning area. The work also included the preparation of proposed amendments to the Village Zoning Ordinance and Zoning District Map which are required to help carry out the recommended land use plan over time.

STUDY AREA

As shown on Map 1, the Village of Hartland is located in the north-central portion of Waukesha County. For the purposes of this study, the Village of Hartland Study Area was defined to encompass Sections 25 through 29, and 32 through 36 in U. S. Public Land Survey Township 8 North, Range 18 East, and Sections 1 through 5, 8 through 17, and 20 through 24 in U. S. Public Land Survey Township 7 North, Range 18 East. This area, which encompasses 24.4 square miles, is bordered on the north by the Town and Village of Merton; on the east by the Towns of Merton and Delafield; on the south by the Town of Delafield; and on the west by the City of Delafield. The Village of Hartland comprises about 2.9 square miles, or 12 percent of the total study area, and the remainder of the study area comprises about 21.5 square miles, or 88 percent of the total study area.

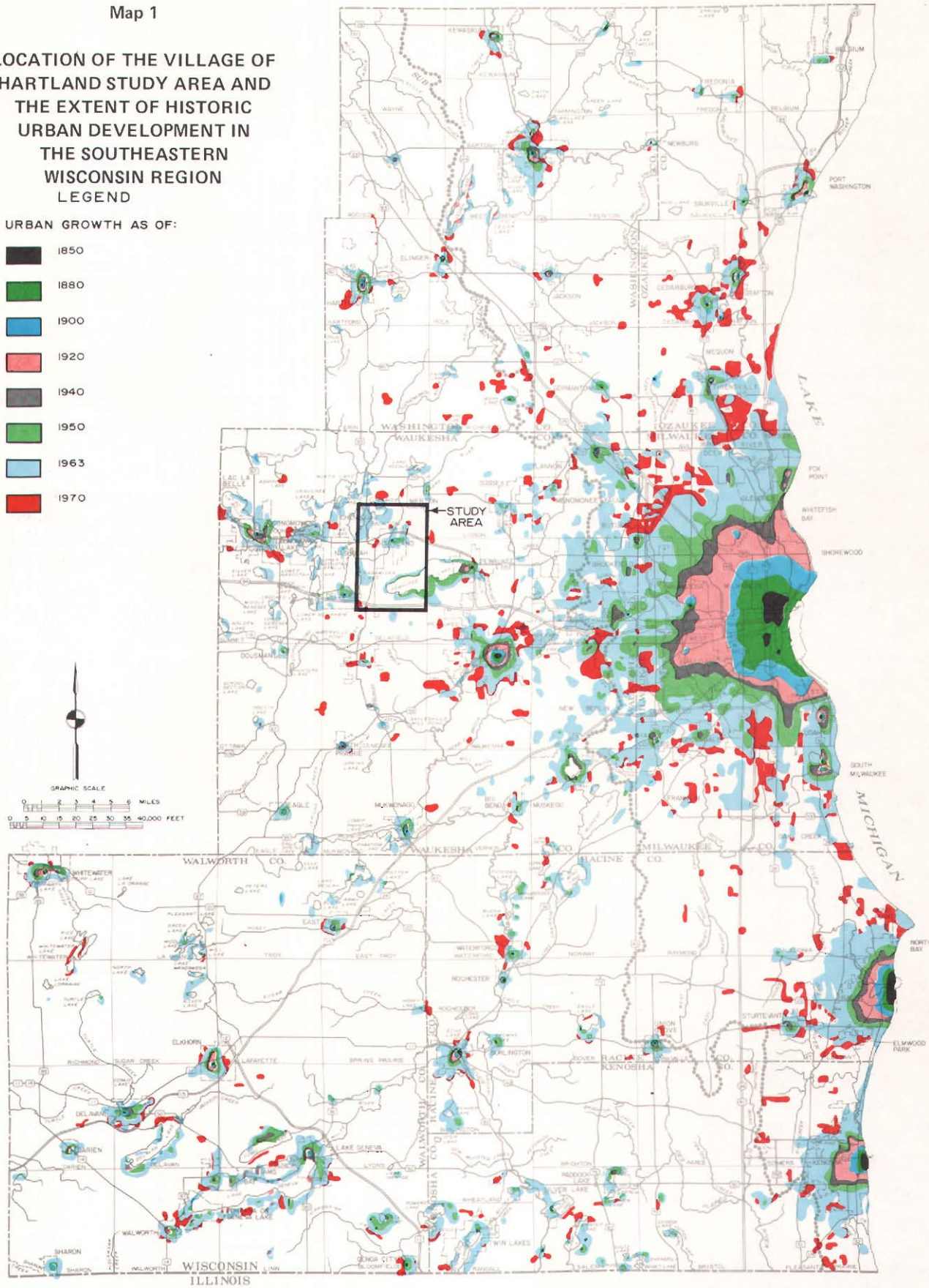
During the past decade, the Village has come increasingly under the influence of development pressure generated by the expansion of the Milwaukee urbanized area. This pressure is affecting the character of Waukesha County and the Village of Hartland. As the Milwaukee urbanized area continues to expand and grow, it is likely that its

Map 1

LOCATION OF THE VILLAGE OF HARTLAND STUDY AREA AND THE EXTENT OF HISTORIC URBAN DEVELOPMENT IN THE SOUTHEASTERN WISCONSIN REGION
LEGEND

URBAN GROWTH AS OF:

- 1850
- 1880
- 1900
- 1920
- 1940
- 1950
- 1963
- 1970



Source: SEWRPC.

influence on the character of Waukesha County and the Village will increase. This increasing influence may be expected to bring with it social, economic, and physical change, which will present physical development problems and opportunities for the Village of Hartland. To effectively meet these challenges and still guide the physical development of the community in harmony with the social and economic, as well as physical development goals and objectives of the Village, Village officials must plan for the anticipated and desired change and make a sustained effort to shape and guide this change in the public interest.

STUDY OBJECTIVES

The purpose of the local planning effort documented herein is to provide the Village of Hartland with one of the key elements of a comprehensive community development plan—a land use plan. This plan, while constituting an important guide to community development, is also intended to carry the regional plan elements into greater depth and detail as is necessary for sound planning at both local and regional levels. In the conduct of the planning effort, these five basic study objectives were identified:

1. Define the physical development constraints and opportunities imposed upon the Village by the existing cultural features and the natural resource base elements in the study area.
2. Identify existing plans and policies of other agencies of government which may affect physical development in the Village.
3. Identify the development objectives of the residents of the Village which are significant to the planning process.
4. Determine future land use needs for the Village through the year 2000.
5. Formulate a sound land use plan for the Village and environs, and propose related implementation measures.

THE LAND USE PLANNING PROCESS

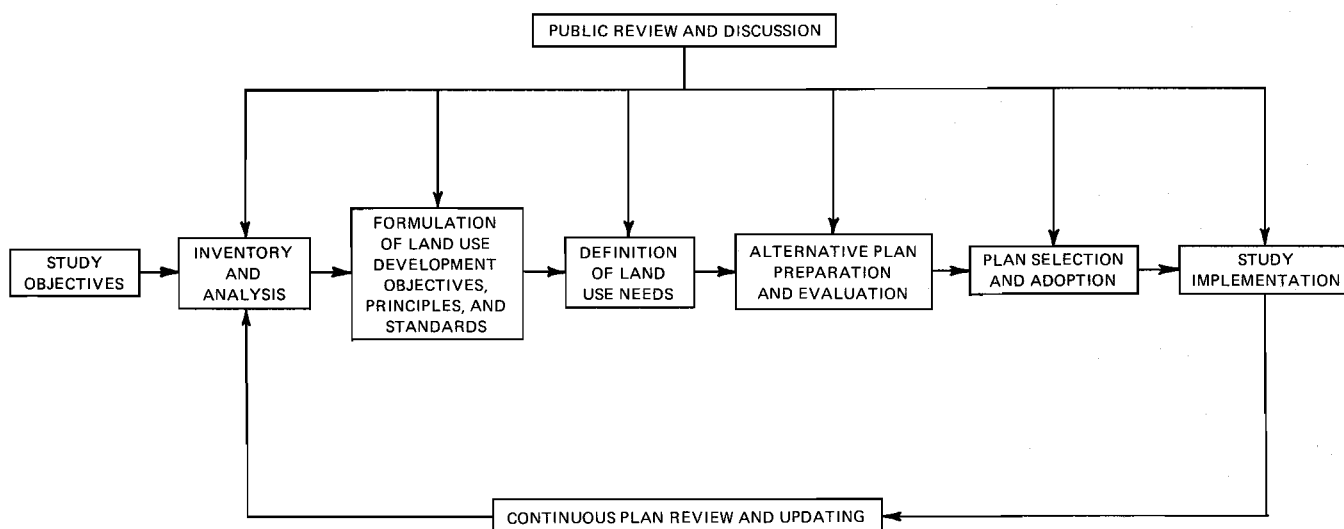
The planning process used to prepare the land use plan herein documented is summarized in Figure 1. The first stage in the process consisted of an inventory and analysis of the existing cultural and

natural resource base elements of the Village and the surrounding area, together with a review of existing applicable areawide and local development plans. This first stage identified the important physical development objectives and constraints in the Village, which in turn defined the key issues to be addressed in the plan. The second stage involved the formulation of land use development objectives, principles, and standards based upon the information gained and conclusions drawn from the inventory and analysis stage and from public meetings held with elected and appointed Village officials and interested citizens. The third stage of the land use planning process consisted of the definition of land use and related community facility requirements in the Village and environs through the year 2000, based upon the previously formulated land use development objectives, principles, and standards. The fourth stage consisted of preparing alternative land use plans, and evaluating each alternative plan against the defined land use development objectives. The final stages in the process consisted of selection of one of the alternative land use plans and adoption of that plan by the Village Plan Commission and Village Board, and formulation of certain key plan implementation measures. Progress reports were presented to the Village Plan Commission, as the land use planning effort proceeded, in a series of special meetings held as a part of each stage in the planning process. These meetings fostered local awareness of the land use planning program, encouraged local review and comment by local elected and appointed officials and interested citizens on the work accomplished by the Commission staff during each stage of the planning process, and provided a forum where physical development issues and concerns of interested individuals and groups could be discussed.

It should be noted in this respect that the land use planning process outlined in Figure 1 envisions the periodic review, evaluation, and, as may be necessary, revision of the plan. Accordingly, the plan, as set forth herein, should not be considered a static document. The plan should be viewed as the official physical development policy of the Village for as long as it is used, understood, supported, and utilized by Village officials involved in the making of development decisions affecting the Village. Since attitudes, priorities, and needs change and evolve over time, it is likely that the physical development policy of the Village will also change. Therefore, a continuing effort should be maintained by the Village Plan Commission and the

Figure 1

THE LAND USE PLANNING PROCESS



Source: SEWRPC.

Village Board to keep the plan current by making appropriate amendments to the plan as changing conditions may dictate.

REGIONAL INFLUENCES

Sound planning practice dictates that local plans be prepared within the framework of adopted regional and subregional plans. Three of the adopted regional plan elements which are of particular importance to the community land use planning process are the regional land use plan, the regional transportation system plan, and the regional park and open space plan. The salient recommendations of these three adopted regional plan elements as they relate to the study area and its environs are graphically shown on Maps 2, 3, and 4.

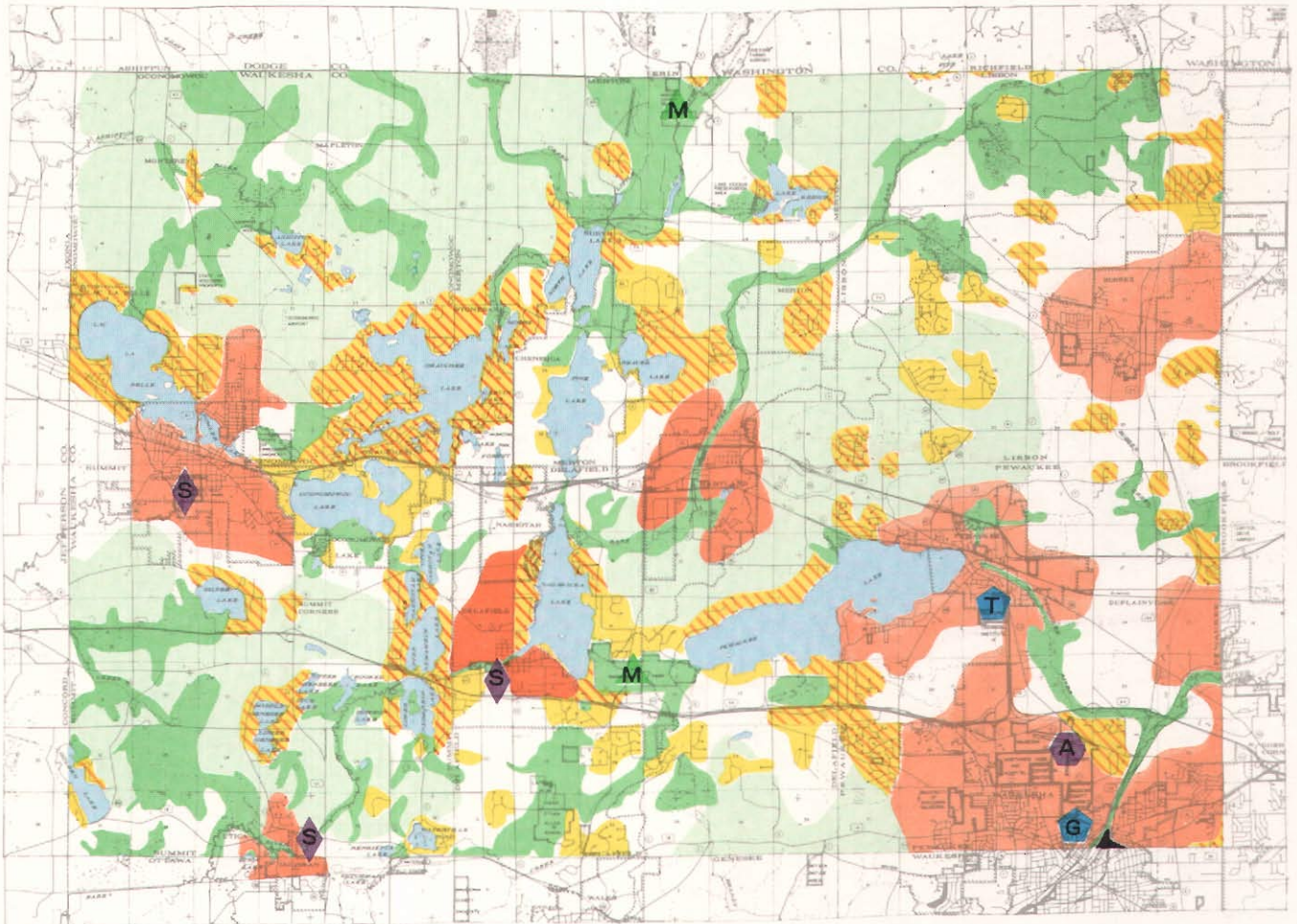
The adopted regional land use plan, as described in SEWRPC Planning Report No. 25, A Regional Land Use Plan and a Regional Transportation Plan for Southeastern Wisconsin: 2000, provides for the attainment of specific regional land use development objectives formulated with the advice and consent of concerned local, state, and federal units and agencies of government. Based upon carefully prepared inventories, analyses, and forecasts of demographic, economic, public financial resources, natural resources, and public utility factors; the

regional land use plan provides recommendations with respect to the amount, spatial distribution, and general arrangement of the various land uses required to serve the needs of the anticipated future population and economic activity levels within the Region. The recommendations contained in the regional land use plan which are particularly important to the preparation of a land use plan for the Village of Hartland are those concerning the preservation of prime agricultural lands; the preservation of primary environmental corridors; and the encouragement of a compact pattern of urban development in those areas that are covered by soils considered to be suitable for urban use, that can be readily served by centralized public sanitary sewerage, water supply, and transit facilities, and that are not subject to special hazards such as flooding. These and other aspects of the regional land use plan provide the basic framework for the local land use plan recommended herein.

The adopted regional transportation system plan, as described in SEWRPC Planning Report No. 25, provides recommendations as to how the regional land use plan can best be served by highway and transit facilities. It recommends a functional and jurisdictional system of arterial streets and highways to serve the Region through the design year 2000, together with a functional network of various types of transit lines. The regional trans-

Map 2

ADOPTED REGIONAL LAND USE PLAN AS IT RELATES TO THE VILLAGE OF HARTLAND STUDY AREA AND ITS ENVIRONS

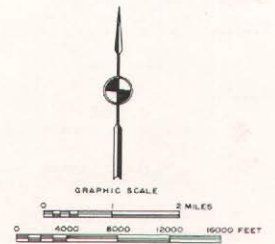


LEGEND

PRIMARY LAND USES

- SUBURBAN RESIDENTIAL
(0.2-0.6 DWELLING UNITS PER NET RESIDENTIAL ACRE)
- LOW DENSITY RESIDENTIAL
(0.7-2.2 DWELLING UNITS PER NET RESIDENTIAL ACRE)
- MEDIUM DENSITY RESIDENTIAL
(2.3-6.9 DWELLING UNITS PER NET RESIDENTIAL ACRE)
- HIGH DENSITY RESIDENTIAL
(7.0-17.9 DWELLING UNITS PER NET RESIDENTIAL ACRE)
- MAJOR PUBLIC OUTDOOR RECREATION CENTER
M-MULTI-USE SITE
- MAJOR TRANSPORTATION CENTER
A-AIRPORT

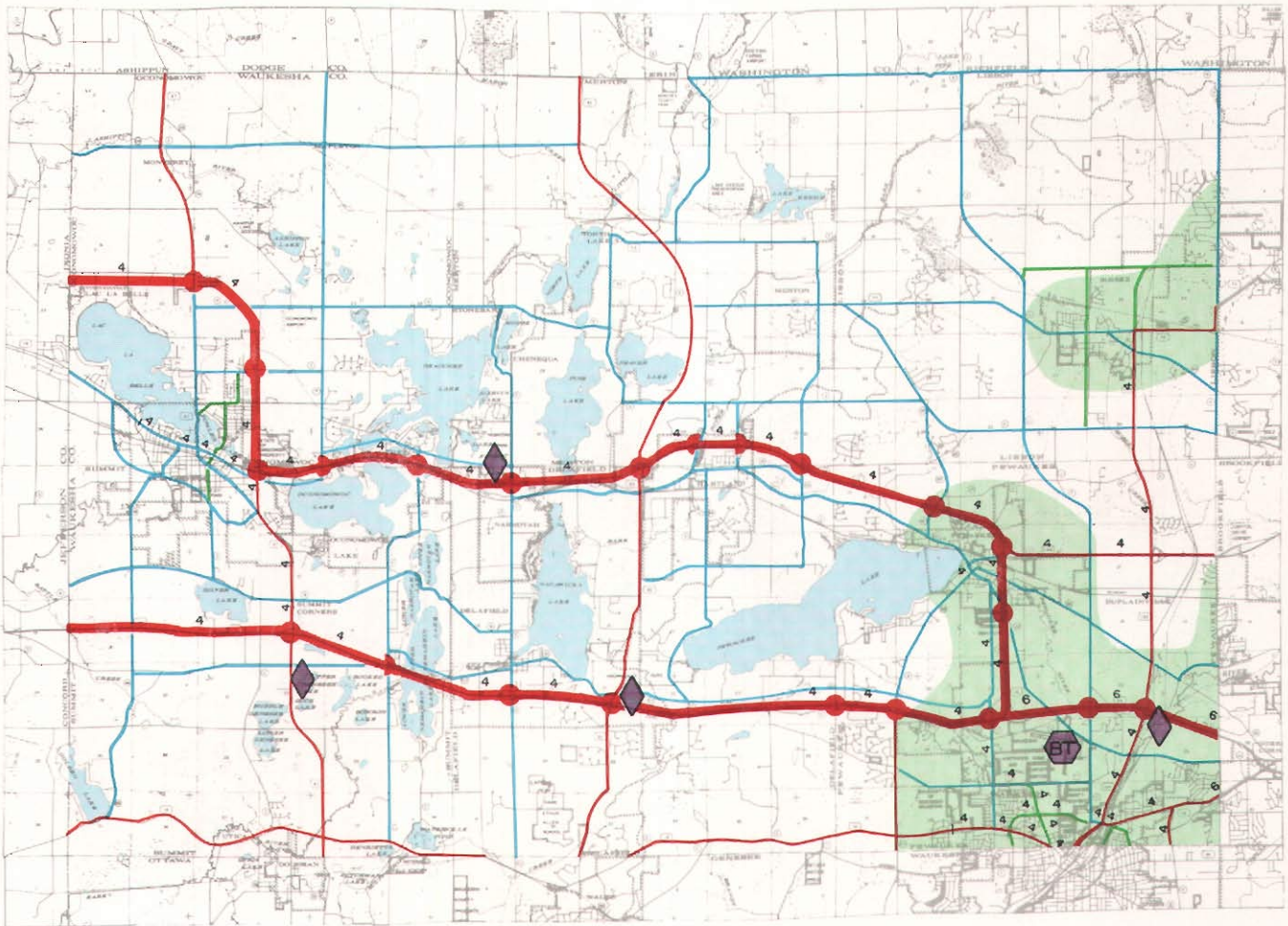
- MAJOR UTILITY CENTER
S-PUBLIC SEWAGE TREATMENT PLANT
- MAJOR GOVERNMENTAL OR INSTITUTIONAL CENTER
G-COUNTY, STATE, OR FEDERAL ADMINISTRATIVE OFFICE
T-TECHNICAL/VOCAIONAL
- PRIMARY ENVIRONMENTAL CORRIDOR
- PRIME AGRICULTURAL LAND
- OTHER AGRICULTURAL AND RURAL LAND
- WATER



Source: SEWRPC.

Map 3

ADOPTED REGIONAL TRANSPORTATION SYSTEM PLAN AS IT RELATES TO THE VILLAGE OF HARTLAND STUDY AREA AND ITS ENVIRONS



LEGEND

ARTERIAL STREET AND HIGHWAY SYSTEM

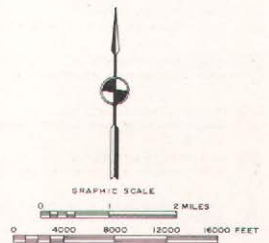
- JURISDICTIONAL CLASSIFICATION
- STATE TRUNK-FREEWAY
 - STATE TRUNK-NONFREEWAY
 - COUNTY TRUNK
 - LOCAL TRUNK
 - FREEWAY - NONFREEWAY INTERCHANGE
 - 4 NUMBER OF TRAFFIC LANES (TWO LANES WHERE UNNUMBERED)
 - 4|6 CHANGE IN NUMBER OF TRAFFIC LANES

URBAN MASS TRANSIT SYSTEM

- SERVICE AREA
- ◆ PARK AND POOL LOT

AIRPORT SYSTEM CLASSIFICATION

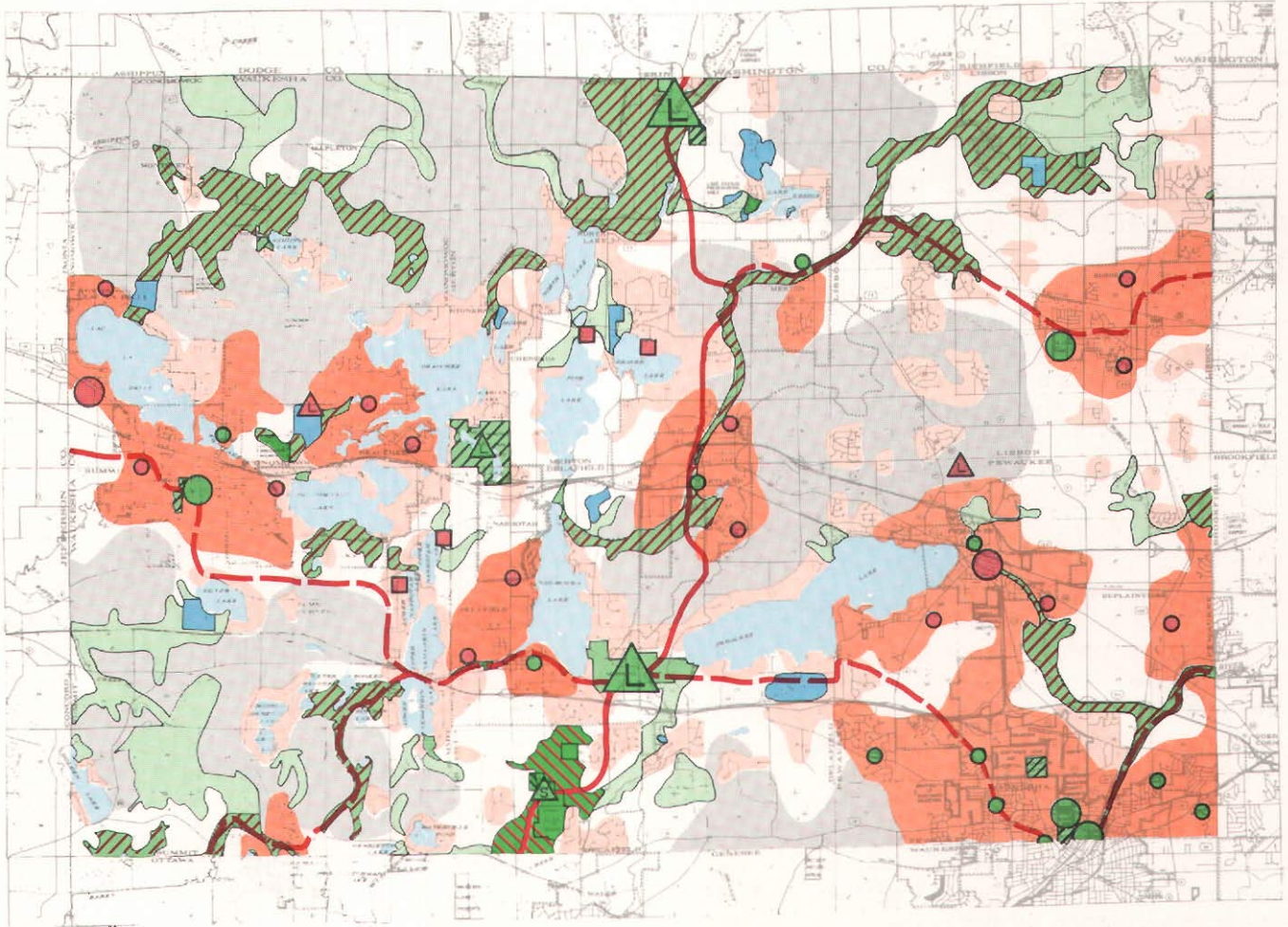
- BT - BASIC TRANSPORT



Source: SEWRPC.

Map 4

ADOPTED REGIONAL PARK AND OPEN SPACE PLAN AS IT RELATES TO THE VILLAGE OF HARTLAND STUDY AREA AND ITS ENVIRONS



LEGEND

OPEN SPACE PRESERVATION ELEMENT

PRIMARY ENVIRONMENTAL CORRIDOR COMPONENT

- EXISTING STATE OWNERSHIP
- EXISTING LOCAL OWNERSHIP
- PROPOSED STATE OWNERSHIP
- PROPOSED LOCAL OWNERSHIP
- EXISTING COMPATIBLE PRIVATE OUTDOOR RECREATION USE (PROPOSED TO BE PROTECTED THROUGH PUBLIC LAND USE REGULATION)
- PROPOSED TO BE PROTECTED THROUGH PUBLIC LAND USE REGULATION

PRIME AGRICULTURAL LAND COMPONENT

- PROPOSED TO BE PROTECTED THROUGH PUBLIC LAND USE REGULATION

OUTDOOR RECREATION ELEMENT

RESOURCE ORIENTED COMPONENT

- MAJOR PUBLIC PARK SITE—TYPE I (250 OR MORE ACRES)
- EXISTING LOCAL OWNERSHIP
- OTHER PUBLIC PARK SITE—TYPE II (100-249 ACRES)
- EXISTING STATE OWNERSHIP
- EXISTING LOCAL OWNERSHIP
- PROPOSED LOCAL OWNERSHIP

RECREATION CORRIDOR (TRAIL)

- PROPOSED STATE RESPONSIBILITY
- PROPOSED LOCAL RESPONSIBILITY
- PROPOSED RECREATIONAL BOATING WATER ACCESS POINT
- MAJOR INLAND LAKE OR RIVER

URBAN ORIENTED COMPONENT

- EXISTING OR PLANNED URBAN DEVELOPMENT REQUIRING TYPE III AND TYPE IV PUBLIC PARK SITES

MAJOR PUBLIC PARK SITE—TYPE III (25-99 ACRES)

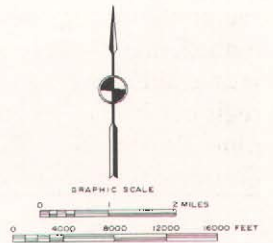
- EXISTING
- PROPOSED

OTHER PUBLIC PARK SITE—TYPE IV (5-24 ACRES)

- EXISTING
- PROPOSED

OTHER OUTDOOR RECREATION SITE OR LAND USE

- EXISTING OTHER LOCAL OUTDOOR RECREATION OR OPEN SPACE SITE
- OTHER EXISTING URBAN DEVELOPMENT
- OTHER RURAL LAND
- WATER



Source: SEWRPC.

portation system plan was developed on the basis of careful quantitative analyses of existing and projected traffic volumes and existing highway and transit system capacity and use. As presented herein, the regional arterial street and highway system plan, in its functional and jurisdictional aspects, forms the basis for the arterial street and highway system recommended to be developed to serve and support the recommended land use plan for the study area.

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 the park and open space needs of the Region, and recommends programs to meet those needs over time. The report includes inventories and analyses of the Region's socioeconomic and natural resource base elements; the existing outdoor recreation facilities and sites and their use; the existing county and local park and open space plans, the administrative structure for the provision of parks and open space plans, the laws and regulations relating to the provision of parks and open space; and the potential park and open space sites in the Region. Park and related open space acquisition and development objectives, principles, and standards are set forth in the plan and applied to existing and forecast population levels to identify existing and probable future needs within the Region for open space; for large regional natural resource-oriented parks; for recreational corridors; and for smaller urban parks, together with their attendant recreation facility requirements.

While the recommendations contained in the adopted regional land use, transportation system, and park and open space plans were considered of primary importance to the formulation of the land use plan for the Village of Hartland, the adopted regional housing plan and the regional water quality management plan also provided guidance in formulating the land use plan documented herein. The regional housing plan, described in SEWRPC Planning Report No. 20, A Regional Housing Plan for Southeastern Wisconsin, identifies existing housing

needs within the Region and recommends steps which would help to meet that need. The report includes data on the existing housing stock in the Region, the cost of buying and occupying new housing, housing financing and technology, governmental activity in housing, housing need, constraints on the availability of housing, alternative housing allocation strategies, and a recommended regional housing plan. In addition to considering the housing problems in the Region as a whole, the report addresses itself to the housing problems and needs of smaller subregional areas known as housing analysis areas. The Village of Hartland study area is located within housing analysis areas 36, 37, and 38. The recommended land use plan for the study area reflects certain of the specific housing recommendations as contained in the regional housing plan for this geographic area.

Major 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 report sets forth the basic principles and concepts underlying the areawide water quality management planning program together with the description of the existing man-made and natural resource base features which affect, and are affected by, water quality; describes existing water quality conditions in the Region and identifies sources of pollution; sets forth recommended water use objectives and supporting water quality standards; analyzes population, economic activity, and land use trends; presents and evaluates alternative plans; and recommends the water quality management plan for the Region. The plan consists of a land use and sanitary sewer service area element, a waste water sludge management element, and a water quality monitoring element. The plan also sets forth an implementation strategy. Certain of the water quality management plan recommendations, particularly those related to the delineation of a sanitary sewer service area for the study area, are reflected in the recommended land use plan contained herein.

Chapter II

INVENTORY AND ANALYSIS

INTRODUCTION

Basic planning data, collected on a uniform, area-wide basis are essential to the formulation of sound land use plans. Consequently, an accurate inventory of pertinent man-made and natural resource base elements in the study area becomes an initial operational step in the land use planning process. The crucial nature of factual information in the planning process should be evident, since intelligent forecasts cannot be made, nor alternative courses of action selected, without knowledge of the existing conditions associated with the system being planned. This basic planning data consists of information concerning population characteristics; economic factors; soils; surface drainage and flood-land features; wetlands, woodlands, and wildlife habitat areas; principal topographic features; existing land use; and community utilities and facilities. This inventory not only provides basic planning data on existing conditions but also enables the identification of specific existing physical development problems and issues.

POPULATION

Information on the size, characteristics, and distribution of the population of the study area and the anticipated changes over time in these demographic factors is essential to sound local planning. Certain of the needs which a land use plan seeks to meet are directly related to the existing and probable future population of the area under consideration.

In the original regional land use plan for the design year 1990, adopted in 1966, and in the regional sanitary sewerage system plan also for the design year 1990, adopted in 1974, the design year population for the Village of Hartland sanitary sewer service area was established at 9,300 persons. Studies made as a part of the preparation of a new regional land use plan for the design year 2000, adopted in 1978, indicated that the population of the Region was not growing as rapidly as originally anticipated. Consequently, for many communities in the Region, the new design year 2000 regional

land use plan established lower design year population levels than those established in the 1990 land use plan. The new design year 2000 regional land use plan established the design year population of the Hartland area at 7,100 persons, about 30 percent lower than that originally established in the design year 1990 regional land use plan. Facilities planning work for the Delafield-Hartland Water Pollution Control Commission (Dela-Hart) areawide sewage treatment plant was undertaken in 1976, prior to publication of the new design year 2000 regional land use plan. Consequently, the design year population level established in the design year 1990 regional land use plan for the Village of Hartland sanitary sewer service area of 9,300 persons was used as a basis for determining design sewage flows, which in turn were used to determine the sewage treatment capacity requirements of the Dela-Hart service area. As shown under Forecast C in Table 1, the Dela-Hart sewage treatment plant was designed and is being constructed to serve a design year 2000 resident population of 10,700 persons in the Village of Hartland sanitary sewer service area. Thus the design capacity of the areawide sewage treatment plant allocated to the Hartland area of 10,700 persons substantially exceeds the population of 7,100 envisioned for this area in the year 2000 regional land use plan. The new areawide treatment plant and related trunk sewer improvements, however, will achieve two major physical development objectives of the regional plans for the Delafield-Hartland area. First, the Dela-Hart sewerage system will function as an areawide system, thereby facilitating coordinated land use development and water resource protection in the entire service area of the facilities of the Delafield-Hartland Water Pollution Control Commission. Second, the new sewerage system will encourage the concentration of new urban development in and immediately around established urban areas, a major objective of the new design year 2000 regional land use plan. In view of the above findings, the Village Plan Commission determined that the land use plan for the Village of Hartland area should be prepared using the sanitary sewer service area design year 2000 population of 10,700 persons.

Table 1

**COMPARISON OF ALTERNATIVE POPULATION FORECASTS
FOR THE VILLAGE OF HARTLAND SEWER SERVICE AREA**

| Year | Forecast A— 1990 Regional Land Use Plan | Forecast B— 2000 Regional Land Use Plan | Forecast C— Sanitary Sewerage Facility Plan | Difference Between Forecasts B and C | |
|------|---|---|---|---|---------|
| | | | | Number | Percent |
| 1970 | 2,900 | 2,763 ^a | 2,763 ^a | 0 | 0.0 |
| 1980 | 5,400 | 5,300 | 5,700 ^b | 400 | 7.5 |
| 1990 | 9,300 | 6,400 | 8,150 ^b | 1,750 | 27.3 |
| 2000 | -- | 7,100 | 10,700 ^b | 3,600 | 50.7 |

^aU. S. Bureau of the Census count.

^bStrand Associates, Inc., *Environmental Assessment and Cost-Effective Analysis for the Delafield-Hartland Water Pollution Control Commission, Waukesha County, Wisconsin, July 1976.*

Source: SEWRPC.

Historic population growth data and population forecasts for the Region, Waukesha County, and the study area are presented in Table 2. Figure 2 graphically depicts historic population growth and population forecasts for the study area. As shown in Table 2, it is anticipated that the decennial growth rate for Waukesha County will decrease from its 1970 level of about 46 percent to about 18 percent by the end of the planning period. Conversely, Table 2 indicates that the Village of Hartland is expected to maintain a relatively high rate of population growth through the year 2000. This forecast population growth is based upon the key policy—reflected in the adopted regional land use plan—that urban development be encouraged to occur in a relatively compact pattern around existing urban growth centers of the Region, and in areas that can be readily provided with such essential urban services as sanitary sewerage and public water supply. This policy tends to encourage the wise use and protection of the natural resources of the Region; the economical provision of community public utilities and facilities; the provision of high-quality recreational facilities and open space areas; and the preservation of land areas best suited for agricultural use. The Village of Hartland is a free-standing urban community. Furthermore, as already noted, the new Dela-Hart sewage treatment facility, currently under construction, is being sized to serve a resident population of 10,700 persons. Since the 1979 village population is estimated at approximately 5,200 persons, sub-

stantial growth in sewered development is possible. Such additional growth in the study area would be in conformance with the objectives underlying the regional land use plan.

Residential development in rural areas not expected to be served by a public sanitary sewerage system should be discouraged at densities of less than five acres of land per dwelling unit. If this recommendation is followed in the study area, the forecast population for the Hartland sewer service area may be achieved by the year 2000. However, if unsewered urban development is permitted to spread into the rural areas surrounding the Village, the forecast population for the sewer service area is not likely to be reached.

Table 2 indicates a rapid population increase in the Region as a whole since 1900. From 1950 to 1960, the Region's population generally increased at an average rate of about 3.5 percent per year, whereas after 1960 the rate of increase dropped to an average of less than 1 percent per year. This modest average annual increase in the population of the Region is expected to continue to the year 2000.

Table 2 further indicates that Waukesha County has grown at a faster rate than the Region as a whole since 1940 and that it may be expected to continue to do so through the end of the planning period. However, Table 2 also indicates that the rate of population growth in Waukesha County

Table 2

**COMPARISON OF HISTORIC AND FORECAST POPULATION LEVELS FOR
SOUTHEASTERN WISCONSIN, WAUKESHA COUNTY, AND THE VILLAGE OF HARTLAND**

| Year | Southeastern Wisconsin | | Waukesha County | | | Village of Hartland | | |
|-------------------|------------------------|----------------|-----------------|----------------|-----------------------------------|---------------------|----------------|---------------------------------|
| | Population | Percent Change | Population | Percent Change | As a Percent of the SEWRPC Region | Population | Percent Change | As a Percent of Waukesha County |
| 1900 | 501,808 | -- | 35,229 | -- | 7.0 | 629 | -- | 1.8 |
| 1910 | 631,161 | 25.8 | 37,100 | 5.3 | 5.9 | 728 | 15.7 | 2.0 |
| 1920 | 783,681 | 24.2 | 42,612 | 14.9 | 5.4 | 800 | 9.9 | 1.9 |
| 1930 | 1,006,118 | 28.4 | 52,358 | 22.9 | 5.2 | 945 | 18.1 | 1.8 |
| 1940 | 1,067,699 | 6.1 | 62,744 | 16.6 | 5.9 | 998 | 5.6 | 1.6 |
| 1950 | 1,240,618 | 16.2 | 85,901 | 36.9 | 6.9 | 1,190 | 19.2 | 1.4 |
| 1960 | 1,573,620 | 26.8 | 158,249 | 84.2 | 10.1 | 2,088 | 75.5 | 1.3 |
| 1970 | 1,756,086 | 11.6 | 231,338 | 46.2 | 13.2 | 2,763 | 32.3 | 1.2 |
| 1979 ^a | 1,771,437 | -- | 285,092 | -- | 16.0 | 5,513 | -- | 1.8 |
| 1980 | 1,873,400 | 6.7 | 292,300 | 26.4 | 15.6 | 5,700 ^b | 106.3 | 1.9 |
| 1990 | 2,043,900 | 9.1 | 356,600 | 22.0 | 17.4 | 8,150 ^b | 47.9 | 2.3 |
| 2000 | 2,219,300 | 8.6 | 420,600 | 17.9 | 19.0 | 10,700 ^b | 31.3 | 2.5 |

^aBased on Wisconsin Department of Administration estimates.

^bSEWRPC forecast for the Village of Hartland sewer service area.

Source: SEWRPC.

achieved its peak in 1960, when the population increased by 84.2 percent. It should also be noted from the table that since 1940 Waukesha County population levels have represented a steadily increasing portion of the total regional population, a trend that is also anticipated to continue through the end of the planning period. Population forecasts for the Village of Hartland sewer service area and for the remainder of the study area are graphically shown in Figure 2.

Table 3 compares historic and forecast household sizes in Waukesha County and the study area. This table indicates that in 1970 the average household size in the County was 3.66 persons, compared to 3.45 in the study area. The table further indicates that household sizes in the County and the study area may be expected to decline in the future, with the study area maintaining consistently lower levels than the County through the year 2000. Forecast changes in average household size during the planning period have particularly important implications on housing and land use planning. Average household size is the basic factor used to convert population forecasts to the number of dwelling

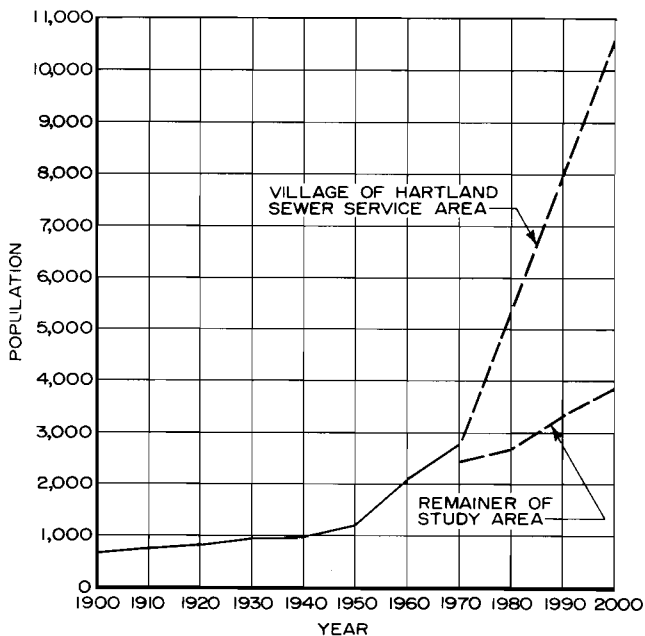
units and the number of residential acres needed in the sewer service area over the planning period. Based on the population forecast in Table 2 and household size information contained in Table 3, an additional 1,578 dwelling units would be needed in the village sewer service area by the year 2000.

In 1970, the U. S. Census Bureau reported the population of the study area as being 99.9 percent white and almost evenly distributed by sex, with 48 percent of the population being male and 52 percent female. The actual and forecast population levels by age group for Waukesha County and the study area are shown in Tables 4 and 5, respectively. The Waukesha County population figures are presented as a basis for comparison.

The tables indicate distinct similarities in the age group populations for Waukesha County and the study area. As shown in Table 4, the percentage of the school age population—ages 5 through 17—in relation to the total county population is expected to decrease from its 1970 level of about 32 percent to about 20 percent by the year 2000. Similarly, Table 5 shows that the percentage of the

Figure 2

HISTORIC AND FORECAST POPULATION LEVELS FOR THE VILLAGE OF HARTLAND SEWER SERVICE AREA AND THE FORECAST POPULATION LEVEL FOR THE REMAINDER OF THE STUDY AREA



Source: SEWRPC.

Table 3

COMPARISON OF HISTORIC AND FORECAST POPULATION PER HOUSEHOLD LEVELS FOR THE VILLAGE OF HARTLAND AND WAUKESHA COUNTY: 1950-2000

| Year | Waukesha County | Village of Hartland |
|------|-----------------|---------------------|
| 1950 | 3.51 | -- |
| 1960 | 3.66 | 3.54 |
| 1970 | 3.66 | 3.45 |
| 1980 | 3.61 | 3.42 ^a |
| 1990 | 3.53 | 3.40 ^a |
| 2000 | 3.50 | 3.39 ^a |

^a These figures represent forecast population per household levels for the Village of Hartland sewer service area.

Source: SEWRPC.

Table 4

ACTUAL AND FORECAST POPULATION LEVELS FOR WAUKESHA COUNTY BY AGE GROUP: 1970-2000

| Age Group | Census Population | | Forecast Population | | | | | |
|-----------------------|-------------------|------------------|---------------------|------------------|---------|------------------|---------|------------------|
| | 1970 | | 1980 | | 1990 | | 2000 | |
| | Persons | Percent of Total | Persons | Percent of Total | Persons | Percent of Total | Persons | Percent of Total |
| Under 5 | 20,819 | 9.0 | 19,079 | 6.5 | 28,437 | 8.0 | 31,104 | 7.4 |
| 5 | 5,187 | 2.2 | 4,504 | 1.5 | 5,133 | 1.4 | 6,835 | 1.6 |
| 6-10 | 29,767 | 12.9 | 23,488 | 8.1 | 25,501 | 7.2 | 33,962 | 8.1 |
| 11-13 | 17,735 | 7.7 | 16,419 | 5.6 | 14,908 | 4.2 | 19,866 | 4.7 |
| 14 | 5,543 | 2.4 | 5,473 | 1.9 | 4,969 | 1.4 | 6,622 | 1.6 |
| 15-17 | 15,424 | 6.6 | 19,993 | 6.8 | 15,991 | 4.5 | 17,509 | 4.2 |
| 18 | 4,277 | 1.9 | 6,664 | 2.3 | 5,330 | 1.5 | 5,836 | 1.4 |
| 19-59 | 110,751 | 47.9 | 164,689 | 56.4 | 208,661 | 58.5 | 236,041 | 56.1 |
| 60-64 | 7,069 | 3.0 | 10,580 | 3.6 | 15,471 | 4.3 | 17,726 | 4.2 |
| 65 and over | 14,793 | 6.4 | 21,411 | 7.3 | 32,199 | 9.0 | 45,099 | 10.7 |
| Total | 231,365 | 100.0 | 292,300 | 100.0 | 356,600 | 100.0 | 420,600 | 100.0 |

Source: SEWRPC.

Table 5

**ACTUAL AND FORECAST POPULATION LEVELS FOR THE
VILLAGE OF HARTLAND STUDY AREA BY AGE GROUP: 1970-2000**

| Age Group | 1970 ^a | | | | 1980 ^b | | | | 1990 ^b | | | | 2000 ^b | | | |
|--|----------------------------|-------------------------|------------------|------------------|----------------------------|-------------------------|------------------|------------------|----------------------------|-------------------------|------------------|------------------|----------------------------|-------------------------|------------------|------------------|
| | Village Sewer Service Area | Remainder of Study Area | Total Study Area | Percent of Total | Village Sewer Service Area | Remainder of Study Area | Total Study Area | Percent of Total | Village Sewer Service Area | Remainder of Study Area | Total Study Area | Percent of Total | Village Sewer Service Area | Remainder of Study Area | Total Study Area | Percent of Total |
| Less than 5 (pre-school) | 271 | 398 | 669 | 9.8 | 427 | 293 | 720 | 7.5 | 709 | 409 | 1,118 | 8.7 | 867 | 446 | 1,313 | 8.1 |
| 5-10 (grades K-5) | 381 | 556 | 937 | 13.7 | 496 | 339 | 835 | 8.7 | 668 | 385 | 1,053 | 8.2 | 995 | 512 | 1,507 | 9.3 |
| 11-13 (grades 6-8) | 234 | 341 | 575 | 8.4 | 405 | 277 | 682 | 7.1 | 465 | 268 | 733 | 5.7 | 663 | 341 | 1,004 | 6.2 |
| 14-17 (high school) | 249 | 365 | 614 | 9.0 | 513 | 351 | 864 | 9.0 | 505 | 291 | 796 | 6.2 | 631 | 324 | 955 | 5.9 |
| 18 and over (adult population) | 1,628 | 2,398 | 4,026 | 59.1 | 3,859 | 2,640 | 6,499 | 67.7 | 5,803 | 3,347 | 9,150 | 71.2 | 7,544 | 3,877 | 11,421 | 70.5 |
| Total | 2,763 | 4,058 | 6,821 | 100.0 | 5,700 | 3,900 | 9,600 | 100.0 | 8,150 | 4,700 | 12,850 | 100.0 | 10,700 | 5,500 | 16,200 | 100.0 |

^aU. S. Bureau of the Census.

^bSEWRPC forecast based upon actual and forecast age group characteristics for Waukesha County.

Source: SEWRPC.

school age population in the Village of Hartland sewer service area in relation to the total population is expected to decrease from its 1970 level of about 31 percent to about 21 percent by the year 2000. It should be noted that since the forecast Village of Hartland sewer service area population increment is 5,350, a significant increase in school age population may still occur, which may require the provision of additional schools and of certain kinds of recreational facilities. The portion of the population 18 years of age and older in Waukesha County is expected to increase from the 1970 level of about 59 percent to about 72 percent by the year 2000. Furthermore, the table indicates a similar proportionate increase in the population 18 years of age and older in the Village of Hartland sewer service area. These figures suggest that the adult population of the Village may place increasing demands on the type and amount of adult-oriented local community facilities and services to be provided over the planning period.

Changes in population and housing characteristics in the Village of Hartland between 1960, 1970, and 1979 are shown in Table 6. The figures indicate a steadily increasing rate of growth in population and dwelling units since 1960. The dramatic increases in population and dwelling units since 1970 are particularly noteworthy. During this period, both the population and the number of dwelling units in the Village approximately doubled in number. The majority of additional dwelling units constructed since 1960 have consisted of

multiple-family dwelling units rather than single-family dwelling units.

The substantial increase in multiple-family dwelling units constructed in the Village between 1970 and 1979, as indicated in Table 6, is not representative of the type of development occurring in other growing communities in the Region of about the same size as Hartland. Other urban areas in the Region of a population size similar to that of Hartland tend to be experiencing predominantly detached single-family residential development. Owing to the basic differences in service demands, community facility needs, and use characteristics of multiple-family housing versus single-family homes, continued major increases in multiple-family housing in the Village may work to irreversibly alter the small town, family-oriented village character that still remains in the community.

Table 7 indicates residential building activity in the Village of Hartland expressed as the number of dwelling units authorized by building permit. From 1970 through 1979, 947 new dwelling units were added to the housing stock to meet the needs of the expanding population of the Village. This figure represents an average of 95 new dwelling units per year.

ECONOMY

An analysis of the economic forces at work in and around the study area is vital to the land use plan-

Table 6

POPULATION AND HOUSING CHARACTERISTICS IN THE VILLAGE OF HARTLAND: 1960, 1970, AND 1979

| Characteristic | Year | | Change: 1960-1970 | | Year | Change: 1970-1979 | |
|---|-------|-------|-------------------|---------|--------------------|-------------------|--------|
| | 1960 | 1970 | Number | Percent | | 1979 | Number |
| Total Population | 2,088 | 2,763 | 675 | 32.3 | 5,513 ^a | 2,750 | 99.5 |
| Total Housing Units | 589 | 802 | 213 | 36.2 | 1,611 | 809 | 100.8 |
| Single-Family Units | N/A | 577 | N/A | N/A | 906 | 329 | 57.0 |
| Multi-Family Units (2 or more per structure) | N/A | 225 | N/A | N/A | 705 | 480 | 213.3 |
| Mobile Homes | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Occupied Housing Units | 557 | 780 | 223 | 40.0 | N/A | N/A | N/A |
| Owner-Occupied Housing Units | 413 | 543 | 130 | 31.5 | N/A | N/A | N/A |
| Renter-Occupied Housing Units | 144 | 237 | 93 | 64.6 | N/A | N/A | N/A |
| Vacant Housing Units | 32 | 22 | - 10 | - 31.3 | N/A | N/A | N/A |

NOTE: N/A indicates data not available.

^aBased on Wisconsin Department of Administration estimates.

Source: U. S. Bureau of the Census, Wisconsin Department of Administration, and SEWRPC.

Table 7

RESIDENTIAL BUILDING ACTIVITY IN THE VILLAGE OF HARTLAND: 1960-1979

| Year | Number of Dwelling Units Authorized by Building Permit | | | |
|------|--|------------|--------------|-------|
| | Single-Family | Two-Family | Multi-Family | Total |
| 1960 | 5 | 0 | 4 | 9 |
| 1961 | 2 | 0 | 0 | 2 |
| 1962 | 2 | 0 | 2 | 2 |
| 1963 | 3 | 0 | 8 | 11 |
| 1964 | 1 | 0 | 0 | 1 |
| 1965 | 7 | 0 | 7 | 14 |
| 1966 | 11 | 0 | 16 | 27 |
| 1967 | 13 | 0 | 13 | 26 |
| 1968 | 10 | 0 | 16 | 26 |
| 1969 | 10 | 0 | 8 | 18 |
| 1970 | 14 | 0 | 32 | 46 |
| 1971 | 5 | 4 | 32 | 41 |
| 1972 | 17 | 0 | 24 | 41 |
| 1973 | 20 | 10 | 98 | 128 |
| 1974 | 25 | 16 | 30 | 71 |
| 1975 | 54 | 60 | 0 | 114 |
| 1976 | 80 | 28 | 10 | 118 |
| 1977 | 77 | 36 | 44 | 157 |
| 1978 | 108 | 9 | 54 | 171 |
| 1979 | 47 | 5 | 8 | 60 |

Source: SEWRPC.

ning process, since such forces typically determine the economic health of a community and the capability of a community to expand and grow. The Village of Hartland is currently experiencing the initial impact of rapid growth and development generated by urban growth pressures existing in the Milwaukee metropolitan area. This new growth will likely threaten the small village character of Hartland as it now exists. However, the land use plan contained herein can assist village officials in managing the new growth and development in a manner that will make it more compatible with existing development, thus enabling the Village to receive the benefits of the added economic vitality and social diversity associated with new growth and development, without the attendant loss of the desirable existing characteristics of the community. This section describes the past and present economic trends of the Village and presents the significant economic factors that were considered in the formulation of the land use plan.

As indicated in Table 8, the median family income in the Village was \$11,257 in 1970, with approximately 40 percent of the families in the area earning less than \$10,000 per year; 36 percent between \$10,000 and \$15,000 per year; and 24 percent more than \$15,000. Approximately 30 percent of the families in the Village earned less than \$9,005,

Table 8

FAMILY INCOME IN WAUKESHA COUNTY AND IN THE VILLAGE OF HARTLAND: 1970

| 1970 Income Range | 1979 Income Range Equivalents | Village of Hartland | | Waukesha County | |
|----------------------|-------------------------------------|-----------------------|---------|-----------------------|---------|
| | | Number of Families | Percent | Number of Families | Percent |
| Less than \$ 1,000 | Less than \$ 1,970 | 5 | 0.7 | 452 | 0.8 |
| \$ 1,000 - \$ 1,999 | \$ 1,970 - \$ 3,939 | -- | -- | 620 | 1.1 |
| \$ 2,000 - \$ 2,999 | \$ 3,940 - \$ 5,909 | 26 | 3.7 | 879 | 1.6 |
| \$ 3,000 - \$ 3,999 | \$ 5,910 - \$ 7,879 | 31 | 4.5 | 1,131 | 2.0 |
| \$ 4,000 - \$ 4,999 | \$ 7,880 - \$ 9,849 | 10 | 1.5 | 1,177 | 2.1 |
| \$ 5,000 - \$ 5,999 | \$ 9,850 - \$11,819 | 12 | 1.7 | 1,307 | 2.3 |
| \$ 6,000 - \$ 6,999 | \$11,820 - \$13,789 | 10 | 1.5 | 1,341 | 2.4 |
| \$ 7,000 - \$ 7,999 | \$13,790 - \$15,759 | 47 | 6.9 | 2,012 | 3.6 |
| \$ 8,000 - \$ 8,999 | \$15,760 - \$17,729 | 70 | 10.2 | 3,067 | 5.5 |
| \$ 9,000 - \$ 9,999 | \$17,730 - \$19,699 | 61 | 8.9 | 3,588 | 6.4 |
| \$10,000 - \$11,999 | \$19,700 - \$23,639 | 113 | 16.5 | 9,105 | 16.4 |
| \$12,000 - \$14,999 | \$23,640 - \$29,549 | 135 | 19.7 | 11,903 | 21.4 |
| \$15,000 - \$24,999 | \$29,550 - \$49,249 | 148 | 21.6 | 14,904 | 26.8 |
| \$25,000 - \$49,999 | \$49,250 - \$98,499 | 18 | 2.6 | 3,541 | 6.4 |
| \$50,000 or more | \$98,500 or more | -- | -- | 640 | 1.2 |
| Total | | 686 | 100.0 | 55,667 | 100.0 |
| Median | | \$11,257 | | \$12,795 | |

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

which was 80 percent of the median family income. The U. S. Department of Housing and Urban Development (HUD) considers a family earning less than 80 percent of the median family income for the community in which it resides a "lower income family." Such a family is then eligible for participation in several of that agency's housing programs.

Table 8 also compares family incomes in the Village of Hartland with family incomes in Waukesha County. The table indicates that in 1970 the Village of Hartland had a slightly larger proportion of families with incomes less than \$12,000 than did Waukesha County. Also, the table indicates that the proportion of families having incomes between \$12,000 and \$50,000 or more was substantially higher in Waukesha County than in the Village of Hartland. Table 8 also shows the income range equivalents expressed in 1979 dollars for each of the 1970 income ranges.

Table 9 shows employed population 14 years of age and older by occupation and sex in the Village of Hartland. In 1970, approximately 1,068 persons, or about 39 percent of the village population, were in the labor force. The U. S. Bureau

of the Census defines labor force as all persons 14 years of age or older plus all members of the Armed Forces. Table 9 indicates that 26 persons, or about 3 percent of the village labor force, were unemployed in 1970. As further indicated in Table 9, white collar workers—including professional, technical, and kindred workers, managers and administrators (except farm), sales workers, and clerical and kindred workers—represented 575 persons, or about 55 percent of the employed population in the Village. Blue collar workers—including craftsmen and kindred workers, operatives (except transport), transport equipment operatives, laborers (except farm), service workers (except private household), and private household workers—represented 430 persons, or about 41 percent of the employed population in the Village. Farmers and farm managers, laborers, and foremen represented only 5 persons, or less than 1 percent of the employed population in the Village, which is understandable since most of the land within the village limits consists of nonfarm properties. Those persons employed who did not report their occupation in the 1970 census represented 32 persons, or 3 percent of the employed population in the Village.

Table 9

**EMPLOYED POPULATION, 14 YEARS OLD AND OVER,
BY OCCUPATION AND SEX IN THE VILLAGE OF HARTLAND: 1970**

| Occupation | Male | | Female | | Total | |
|--|------------|------------------|------------|------------------|--------------|------------------|
| | Number | Percent of Total | Number | Percent of Total | Number | Percent of Total |
| Professional, Technical, and Kindred Workers . . . | 160 | 24.46 | 95 | 24.48 | 255 | 24.47 |
| Managers, Administrators, except Farm | 102 | 15.60 | 11 | 2.84 | 113 | 10.84 |
| Sales Workers | 42 | 6.42 | 11 | 2.84 | 53 | 5.09 |
| Clerical and Kindred Workers | 41 | 6.27 | 113 | 29.12 | 154 | 14.78 |
| Craftsmen, Foremen, and Kindred Workers | 125 | 19.11 | 8 | 2.06 | 133 | 12.76 |
| Operatives, except Transportation | 66 | 10.09 | 63 | 16.24 | 129 | 12.38 |
| Transport Equipment Operatives | 25 | 3.82 | 6 | 1.55 | 31 | 2.98 |
| Labor, except Farm. | 50 | 7.65 | 0 | 0.00 | 50 | 4.80 |
| Farmers and Farm Managers. | 5 | 0.76 | 0 | 0.00 | 5 | 0.48 |
| Farm Laborers and Foremen | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| Service Workers, except Private Household | 19 | 2.91 | 60 | 15.46 | 79 | 7.58 |
| Private Household Workers | 0 | 0.00 | 8 | 2.06 | 8 | 0.77 |
| Occupation Not Reported | 19 | 2.91 | 13 | 3.35 | 32 | 3.07 |
| Total Employment | 654 | 100.00 | 388 | 100.00 | 1,042 | 100.00 |
| Total Unemployment | 10 | 1.50 | 16 | 4.12 | 26 | 2.99 |
| Total Labor Force | 664 | -- | 404 | -- | 1,068 | -- |

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

The population forecasts for the Hartland sewer service area and the remainder of the study area, as previously discussed, indicate that considerable urban growth may be expected to occur in the study area over the planning period. This additional growth will produce an increased labor force in the study area. While it is recognized that a substantial portion of the labor force of the study area is currently commuting to jobs outside the study area, the likelihood of continuing increases in motor fuel costs, coupled with a less dependable supply of motor fuel, may encourage the labor force in the study area to increasingly seek jobs in local businesses and industries. This situation may have a positive impact on the establishment of new business and industrial concerns in the Village, which in turn should help to make Hartland a more economically self-sustaining and independent community. Increased local self-sufficiency and economic stability should be considered as an important objective of the Village during the planning period. Accordingly, the Village should reserve land for the new industrial and commercial development necessary to meet the needs of its forecast population.

As indicated in Table 10, approximately 39 percent of the village population was in the labor force in 1970. Assuming that the proportion of the area population in the labor force will remain at a level of about 40 percent after 1970, the labor force could be expected to reach 4,280 persons by the year 2000.

NATURAL RESOURCE BASE

This section presents an inventory of existing natural resource base elements, including general characteristics of soils, watershed features, surface water resources, wetlands, woodlands, wildlife habitat, and significant topography. Existing outdoor recreation sites, potential park sites, historic sites and structures, and scenic vistas and viewpoints, while not strictly part of the natural resource base, are closely linked to the underlying resource base and are, therefore, also included in this inventory.

The protection and wise management of the natural resource base are vital to the social and economic development of the Village and to its

Table 10

**ACTUAL AND FORECAST
POPULATION AND LABOR FORCE IN THE
VILLAGE OF HARTLAND: 1970-2000**

| Year | Population | Labor Force |
|------|------------|-------------|
| 1970 | 2,763 | 1,068 |
| 1980 | 5,700 | 2,280 |
| 1990 | 8,150 | 3,260 |
| 2000 | 10,700 | 4,280 |

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

ability to provide a pleasant and habitable environment for its residents. Because of the relatively high growth rate forecast for the Village's sewer service area over the planning period, it is particularly important that the natural resource base of the study area be carefully considered in terms of its ability to sustain urban growth. Environmentally significant areas which deserve protection from intensive urban development and areas which may impose severe limitations upon urban development should be identified so that new development can be guided away from or be carefully adjusted to such areas.

For the purpose of this report, the major elements of the natural resource base have been divided into five groups: 1) soils; 2) selected surface drainage and associated floodland features; 3) wetlands, woodlands, and wildlife habitat; 4) rugged terrain and other topographic features; and 5) other natural resource base-related elements. The elements of the natural resource base contained in the latter four groupings contain those elements of the base which are considered most essential to the maintenance of the overall environmental quality of the study area.

Soils

Soil properties exert a strong influence on the manner in which man uses land. Soils are an irreplaceable resource. The activities of man continue to disrupt soil formation processes, thus making this resource increasingly valuable. Therefore, a need exists in any land use planning effort to examine not only how land and soils are presently used but also how they can best be used and managed. As part of the land use planning program for the Village, three interpretive soil maps were prepared which indicated the geographic extent of

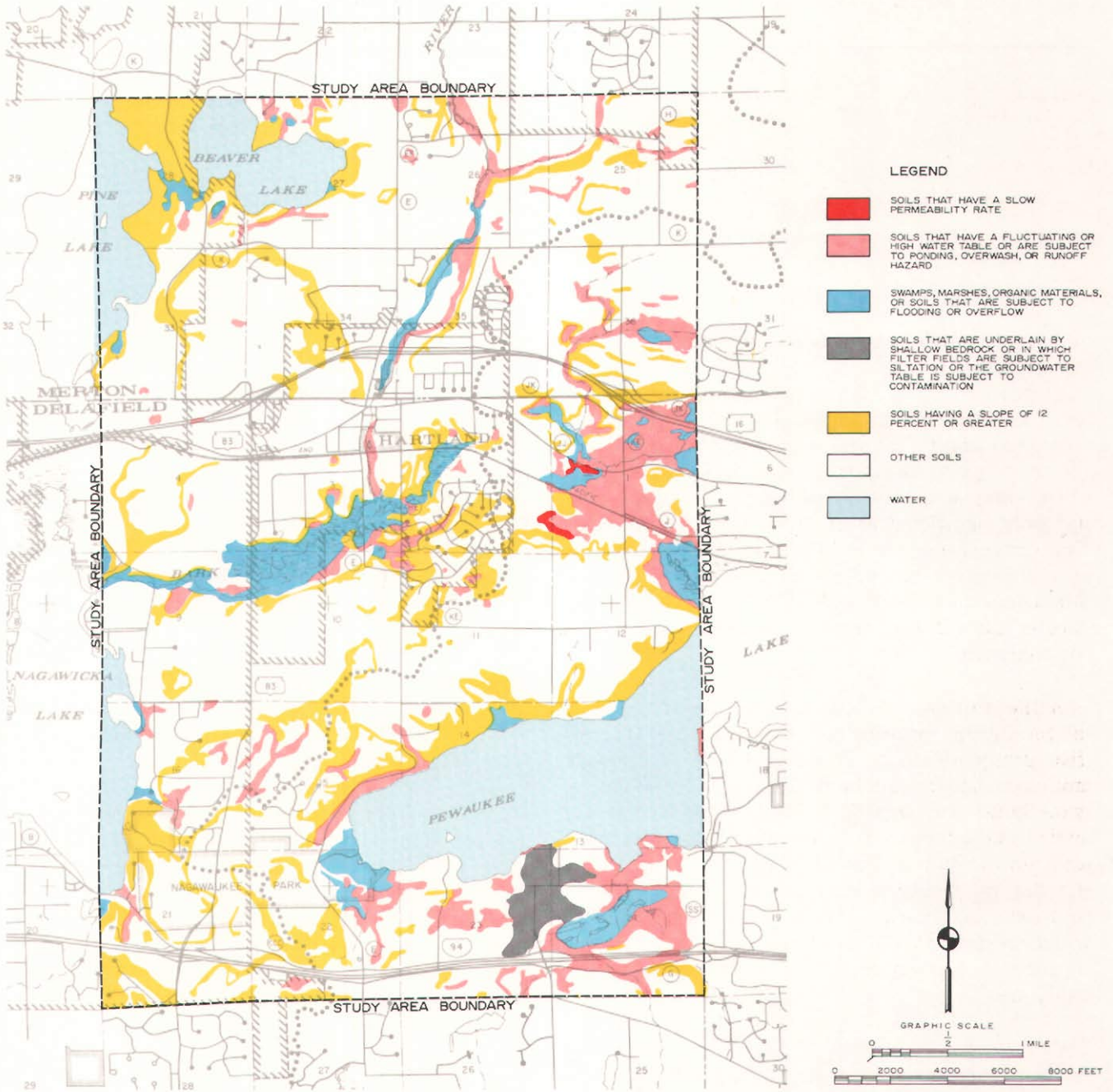
certain soil types in the study area, and the suitability of soils in the study area for various categories of rural and urban land uses. These maps are based upon the detailed operational soil survey completed for the Regional Planning Commission by the U. S. Soil Conservation Service in 1966, and reflect the physical, chemical, and biological properties of soils. The resulting comprehensive knowledge of the character and suitability of soils in the study area was an invaluable aid in analyzing existing land use patterns and in formulating alternative land use plans for the study area. It is also intended that the soil maps provided herein be used by the Village as a guide in evaluating new development proposals for lands within the corporate limits of the Village as well as within the Village's one and one-half mile subdivision platting jurisdiction.

Map 5 depicts soils within the study area having one or more of the following limiting characteristics: 1) slow permeability; 2) fluctuating or high water table or subject to ponding, overwash, or runoff hazard; 3) subject to flooding or overflow; 4) underlain by shallow bedrock; and 5) slopes of 12 percent and greater. Soils which exhibit slow permeability rates occur in a relatively small area immediately east of the Village. Soils having a fluctuating or high water table or subject to ponding, overwash, or runoff hazard and organic soils subject to flooding and overflow are located primarily in riverine areas adjacent to the Bark River and in the lowland areas in the east-central and southeast portions of the study area. Soils having shallow depth to bedrock are limited to a relatively small area south of Pewaukee Lake. Soils having slopes of 12 percent or greater are rather evenly scattered throughout the study area. It should be further noted that much of the area located immediately south of the Milwaukee Road railroad tracks in the Village is covered by soils which have fluctuating or high water tables and high organic content; are subject to ponding, overwash, or runoff hazard; and have slopes of 12 percent or greater. These limitations, working in combination in this area, will be difficult to overcome for most forms of urban development. This fact suggests that if any development is to be encouraged in this area, it should consist of primarily rural or low-density development.

As shown on Map 6, approximately 3,966 acres, or about 25 percent of the study area, are covered by soils having very severe or severe limitations for residential development with lots one acre or less in size served by onsite soil absorption sewage disposal systems. Characteristically, these soils have

Map 5

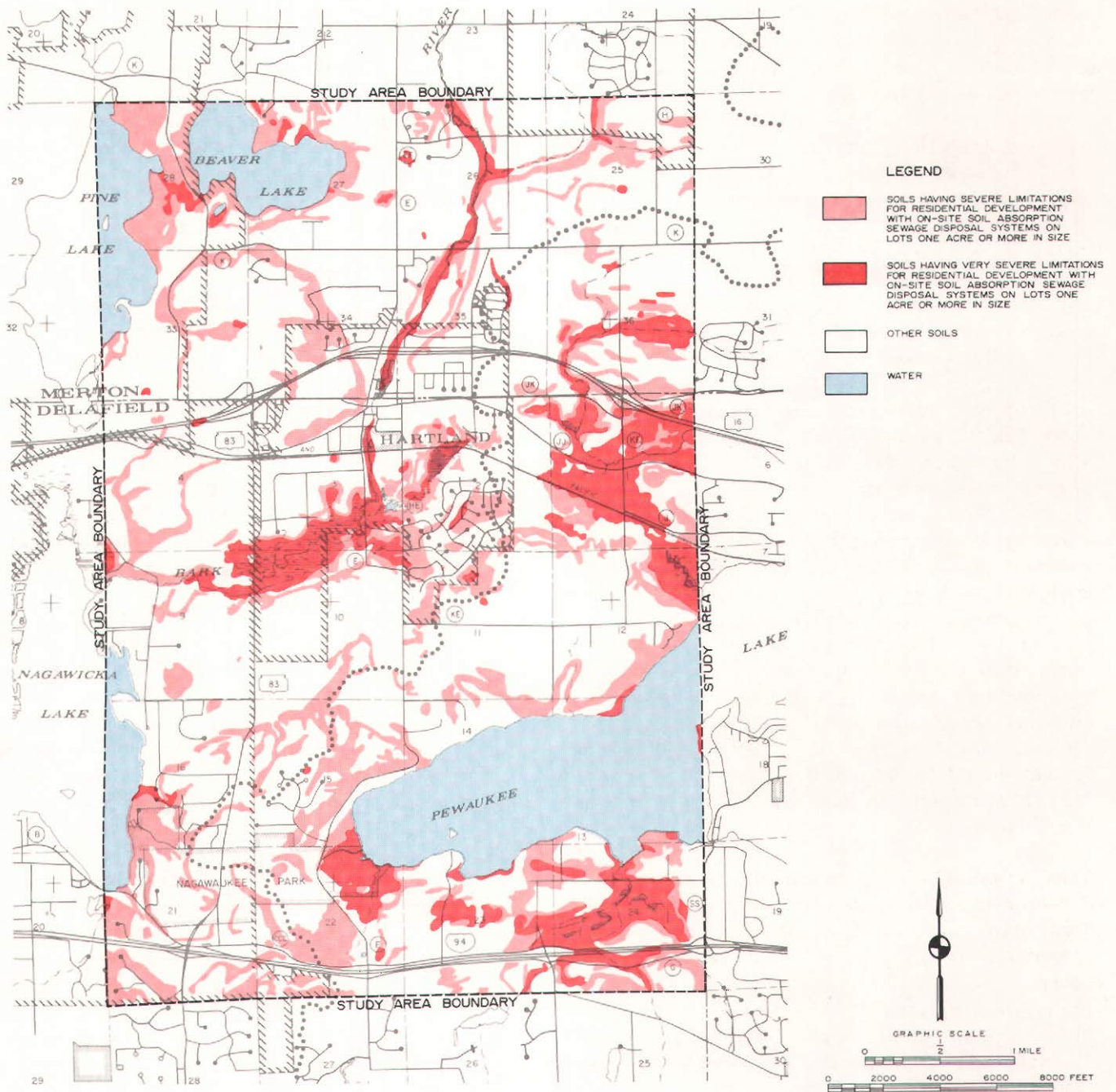
SELECTED CHARACTERISTICS OF SOILS IN THE VILLAGE OF HARTLAND STUDY AREA



Source: SEWRPC.

Map 6

SOIL LIMITATIONS FOR RESIDENTIAL DEVELOPMENT ON LOTS ONE ACRE OR MORE IN SIZE SERVED BY ONSITE SOIL ABSORPTION SEWAGE DISPOSAL SYSTEMS



Source: SEWRPC.

one or more of the following characteristics: slow permeability rates, fluctuating or high water tables, high shrink-swell potential, and shallow depth to bedrock. In addition, they may be located on steep slopes, or may be subject to periodic flooding or surface ponding in low areas. While soils having such limitations are scattered throughout much of the study area, the largest areas covered by such soils are located adjacent to the Bark River and its tributaries and in associated floodlands.

The soil limitations shown on Map 6 are based upon the use of conventional onsite soil absorption sewage disposal systems and relate primarily to areas of the study area that are not proposed to be served by sanitary sewerage facilities. However, it should be noted that Waukesha County permits the use, on a limited basis, of a new type of onsite sewage disposal system commonly referred to as the "mound system." Unlike the conventional gravity flow septic tank system, these systems utilize mechanical pumps to charge a mounded filter field. There are three classifications of soils which have potential for the use of the mound system: soils with slow permeability, soils overlying shallow bedrock, and soils having a high water table. Waukesha County will consider the use of these sewage disposal systems to correct the problems resulting from failing septic tank systems or to provide onsite sewage disposal on existing platted lots which have improper soils for the installation of a conventional gravity flow septic tank system. Since most of the Village and its environs are to ultimately be served by a public sanitary sewer system, the use of the mound system should be limited to areas outside the existing or proposed sanitary sewer service area of the Village.

Map 7 depicts soil limitations for residential development with public sanitary sewer service. This map indicates that about 2,347 acres, or approximately 15 percent of the study area, are covered by soils having very severe or severe limitations for such development. These soils are highly organic, poorly drained, subject to periodic flooding and ponding, and/or located on steep slopes. Also, it should be noted that areas with soils having a shallow depth to bedrock tend to be very costly to develop and, particularly, to serve with sanitary sewers and public water supply mains.

Selected Surface Drainage and Associated Floodland Features

Selected characteristics of the surface drainage system of the study area and of certain related

floodland features are shown on Map 8 and include delineated watershed, subbasin, and internal drainage boundaries; the principal flow direction of surface runoff; major and minor lakes; perennial and intermittent streams or watercourses; the 100-year recurrence interval floodplains; and wet, poorly drained, and organic soils. These resources are among the most important elements of the natural resource base in the study area. Also, these resources make an immeasurably contribution to the economic and social well being of the area, provide areas for passive and active recreation, and enhance the aesthetic quality of the study area.

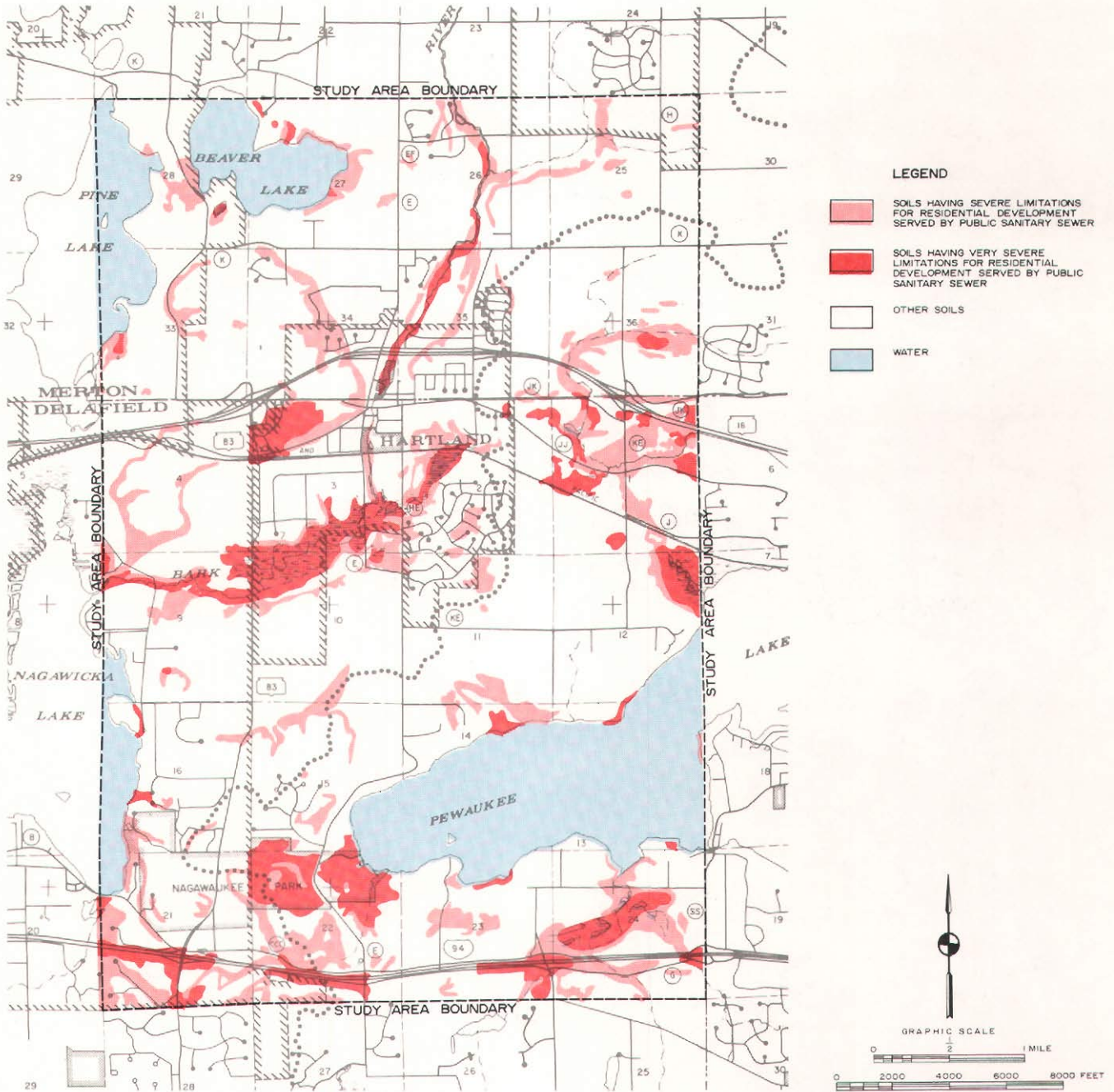
Watershed, Subbasin, and Internal Drainage Boundaries: As shown on Map 8, the watershed boundary between the Rock River and Fox River watershed cuts diagonally across the study area from the southwest corner to the northeast corner. Subbasins in the study area located within the Fox River watershed generally drain in a southeasterly direction toward Pewaukee Lake. Subbasins in the central portion of the study area and within the Rock River watershed generally drain in a southwesterly direction toward the Bark River, which flows into Nagawicka Lake. Subbasins in the northwest corner of the study area form an area of internal drainage to Pine Lake.

Watershed boundaries act as major drainage divides between watersheds. These boundaries generally define the limits of drainage areas that can be potentially served by gravity flow sanitary sewers. A portion of the watershed boundary between the Fox River and Rock River watersheds runs in a north-south direction along the east edge of the existing corporate limits of the Village. The Regional Planning Commission generally encourages communities providing sanitary sewer services not to extend such services into areas which cannot be served by gravity flow. Sewer services requiring the use of lift stations or pumping stations are energy inefficient and can become a major maintenance and cost liability to a community. If the Village maintains its present policy of not extending sanitary sewer service to areas which cannot be served by gravity flow, then the watershed boundary—a major drainage divide—along the eastern corporate limits of the Village should be considered the approximate eastern limit of the area to be served by village sanitary sewers over the planning period.

Lakes and Streams: Lakes and streams constitute focal points for water-related recreational activities; provide an attractive setting for properly planned residential development; and, when viewed

Map 7

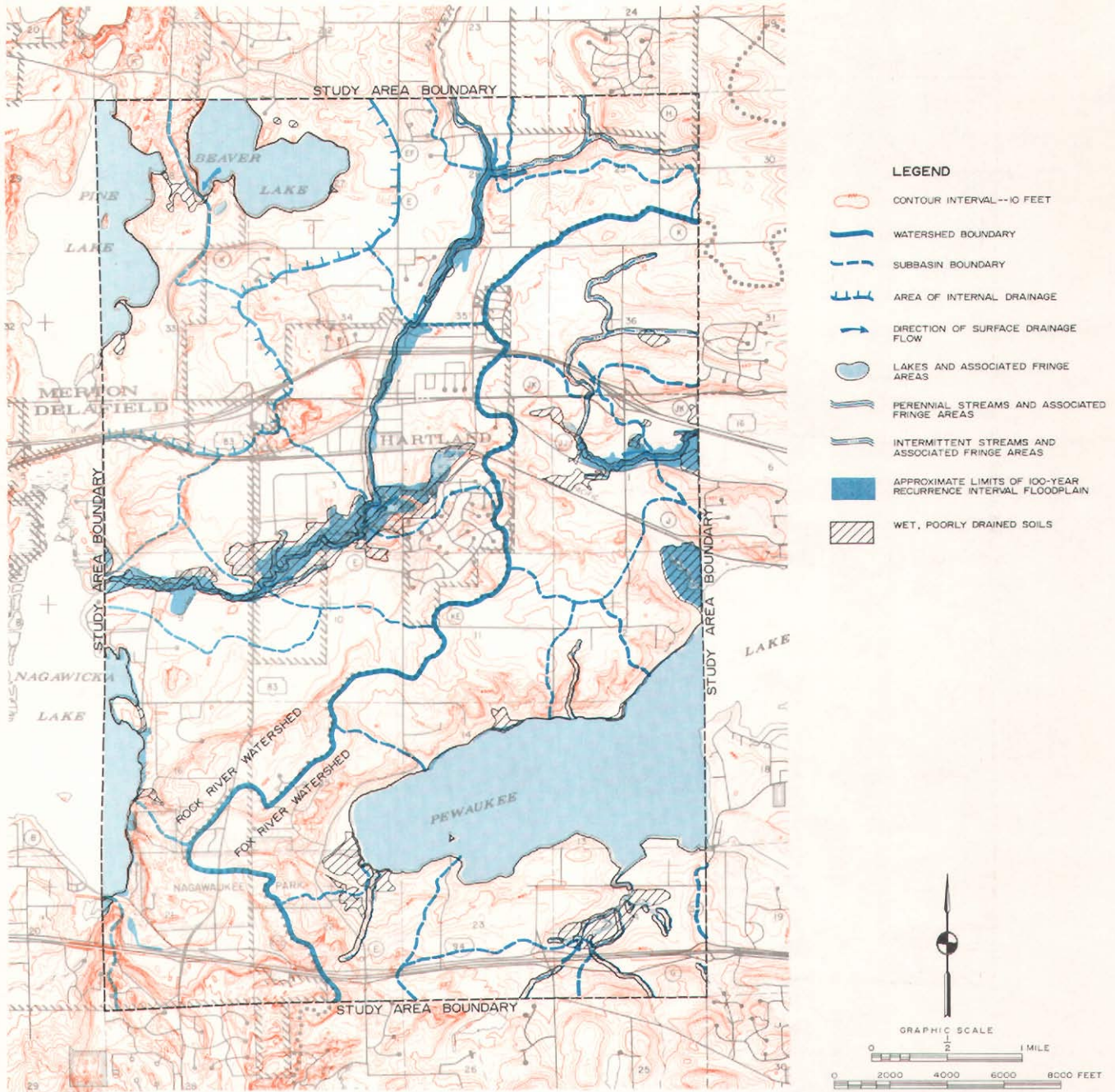
SOIL LIMITATIONS FOR RESIDENTIAL DEVELOPMENT SERVED BY PUBLIC SANITARY SEWERS



Source: SEWRPC.

Map 8

SELECTED SURFACE DRAINAGE AND FLOODLAND FEATURES
FOR THE VILLAGE OF HARTLAND STUDY AREA: 1979



Source: SEWRPC.

in the context of open space areas, greatly enhance the aesthetic quality of the environment. It is important to note that lakes and streams are extremely susceptible to deterioration through improper rural and urban land use development and management. Water quality can degenerate rapidly as a result of excessive nutrient loads from malfunctioning or improperly placed septic systems, inadequately sized and improperly operated sewage facilities, and careless agricultural practices. Excessive development of lakeshore and riverine areas, in combination with the filling of peripheral wetlands—which act as traps to remove nutrient and sediment loadings—adversely affects lakes and streams by increasing the nutrient and sediment loadings to them.

Lakes: Major lakes are defined herein as those lakes having 50 or more acres of surface water area. Lakes of this size are considered capable of supporting reasonable recreation use with relatively little degradation of the resource. Minor lakes are defined herein as those lakes having less than 50 acres of surface water area. As indicated on Map 8, there are four major lakes in the study area. The total combined surface water area of these lakes, which includes surface water area outside the study area, 4,469 acres. Beaver Lake, which is located in the northern portion of the study area, has a total area of 316 acres and a shoreline length of 3.6 miles. Pine Lake and Nagawicka Lake are located along the western edge of the study area and have total areas of 703 acres and 957 acres, respectively, and shoreline lengths of 7.3 miles and 8.6 miles, respectively. Pewaukee Lake is located along the southern edge of the study area and has a total area of 2,493 acres and a shoreline length of 13.2 miles. It should be noted that about the western one-half of Nagawicka Lake and about the eastern one-half of Pewaukee Lake are located outside the boundaries of the study area. The portion of the total surface water area of the four lakes which lies within the study area is approximately 2,100 acres.

The Village of Hartland is bounded on the northwest, southwest, and east by the four lakes mentioned above. This fortunate location provides the residents of Hartland with readily accessible areas for water-oriented recreation. Furthermore, from an aesthetic point of view, the surrounding lakes provide a very pleasant physical setting for the Village. Continued growth and development in the study area should be accomplished in a manner that preserves and enhances the natural beauty and environmental quality of these major lakes.

Rivers and Perennial and Intermittent Streams: Rivers and perennial and intermittent streams are shown on Map 8 along with a 50-foot shoreline area along their respective banks. Rivers and perennial streams are defined herein as those watercourses which maintain, at a minimum, a small continuous flow throughout the year except under unusual drought conditions. The one watercourse within the study area that meets this definition is the Bark River, which flows across the north-central portion of the study area and has a total length within the study area of approximately 5.63 miles.

Intermittent streams are defined herein as watercourses which do not have continuous flow throughout the year. The study area has a well-developed system of intermittent streams that serve a vital function in draining subbasin catchment areas during annual spring thaws and heavy rains.

Floodlands: The floodlands of a river or stream are the wide, gently sloping areas contiguous with, and usually lying on both sides of, a river or stream channel. Most of the time rivers and streams occupy their channels. However, when stream discharges increase beyond the conveyance capacity of the existing channel, the river or stream spreads laterally over the floodlands and a flood event is said to occur.

For planning and regulatory purposes, floodlands are normally defined as the areas, excluding the channel, subject to inundation by the 100-year recurrence interval flood event. This is the flood event that would be reached or exceeded in severity on the average of once every 100 years. Stated another way, there is a 1 percent chance that such an event may be expected to be reached or exceeded in severity in any given year. Commission studies indicate that from 7 to 10 percent of the total land area of any given watershed will be within the 100-year recurrence interval floodplain. The 100-year recurrence interval floodplain contains within its boundaries the areas inundated by floods of less severe but more frequent occurrence, such as the 50-, 25-, and 10-year recurrence interval flood events.

Floodland areas are generally not well suited to urban development, not only because of the flood hazard, but also because of seasonally or perennially high water tables and the presence of soils poorly suited to urban use. The floodland areas, however, often contain important elements of the natural resource base such as high-value wood-

lands, wetlands, and wildlife habitat and constitute prime locations for needed park and open space areas. Therefore, every effort should be made to discourage indiscriminate and incompatible urban development on floodlands, while encouraging compatible park and open space use.

The extent of the 100-year recurrence interval floodplains within the study area has been delineated by the Federal Emergency Management Agency of the U. S. Department of Housing and Urban Development. The floodplains in the study area are shown on Map 8 and cover an area of approximately 569 acres, or about 3.6 percent of the study area. Floodlands within the Village's corporate limits cover an area of approximately 198 acres, or 10.5 percent of the area within the Village.

Wetlands, Woodlands, and Wildlife Habitat

Wetlands: A wetland can be defined as a natural area in which the groundwater table lies at or above the surface of the earth or lies so close to the surface that the raising of a cultivated crop is usually impractical. Wetlands are usually covered by organic soils, silts, and marl deposits. Included in the composition of wetlands are numerous types of land and water-based vegetation, and the dominant plant species help to further classify these areas. Wetlands may be classified into seven types: pothole, fresh meadow, shallow marsh, deep marsh, shrub swamp, timber swamp, and bog. Also, a wetland may consist of a small shallow pond with limited tree cover and fringe vegetation or a densely vegetated bog, characterized by waterlogged soil, moss, and leatherleaf vegetation. Wetlands have an important set of common natural functions that make them valuable resources for society. These functions can be summarized as follows:

1. Wetlands contribute to the maintenance of good water quality—except during unusual periods of high runoff following prolonged drought—by serving as traps which retain nutrients and sediments, thereby preventing such nutrients and sediments from reaching streams and lakes.
2. Wetlands act to stabilize stream flows by storing water during periods of wet weather—which reduces downstream flood flows, and by releasing water during periods of dry weather—which increases downstream low flows, thus protecting communities against both flooding and drought. In addition, wetlands often serve as groundwater recharge areas.

3. Wetlands protect shoreland areas from erosion by absorbing storm impact and reducing the scouring action of currents.

4. Wetlands are important to overall ecological health and environmental diversity as they provide essential breeding, nesting, resting, and feeding grounds as well as predator escape cover for many forms of fish and wildlife, and thereby foster related recreational, research, and educational values and uses, while contributing to the economic functions of trapping, hunting, and fishing, and adding to the aesthetics of the landscape.

Recognizing these important environmental functions, continued efforts should be made to protect this resource by discouraging costly—both in monetary and environmental terms—wetland draining, filling, and conversion to other more intensive rural and urban uses.

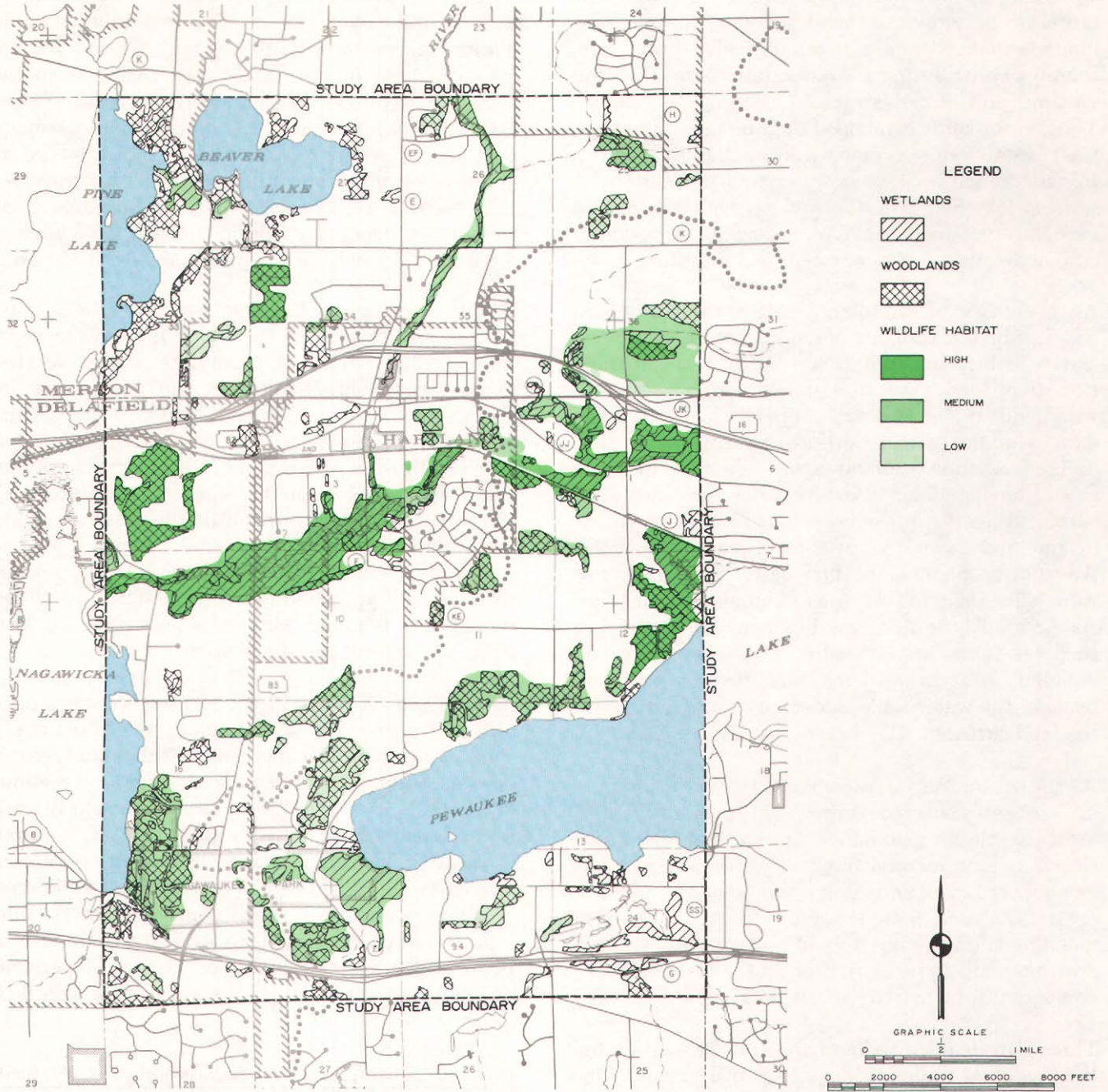
Wetlands in the study area, as identified in a 1979 inventory made by aerial photo interpretation, by field inspection, and by analysis of mapped soils data, are shown on Map 9. For the purpose of this inventory, only wetlands one acre or larger in size were identified. It should be noted that such areas as tamarack swamps and other lowland wooded areas have been classified as wetlands because the water table is located at, near, or above the land surface.

Generally, wetlands within the study area occur in the poorly drained, lowland areas adjacent to rivers and streams. However, in some instances, wetlands occur in areas which are isolated from watercourses, in depressional areas formed by the rolling topography of the study area. The largest wetland areas in the study area occur in lowland areas lying adjacent to or near the banks of the Bark River. There are approximately 996.7 acres of wetlands within the study area, which represents about 6.4 percent of the total study area.

Woodlands: Woodlands have both economic and ecologic value and under good management can serve a variety of uses and provide multiple benefits. Located primarily on ridges and slopes and along streams and lakeshores, woodlands provide an attractive natural resource of immeasurable value. Woodlands not only accentuate the beauty of lakes, streams, and topography of an area, but they are essential to the maintenance of the overall quality of the environment of an area. In addition to contributing to clean air and water, woodlands can contribute to the maintenance of a diversity

Map 9

WETLANDS, WOODLANDS, AND WILDLIFE HABITATS IN THE VILLAGE OF HARTLAND STUDY AREA: 1979



Source: SEWRPC.

of plant and animal life in association with human life and can thereby provide important recreational opportunities. It should be noted that existing woodlands which may have required a century or more to develop can be destroyed through mismanagement within a comparatively short time, thereby contributing to the siltation of lakes and streams and the destruction of wildlife habitat. Thus, woodlands can and should be maintained for their total value—scenic, wildlife habitat, educational, recreational, and watershed protection—as well as for their forest products. Under balanced use and sustained yield management, woodlands can serve many of these benefits simultaneously.

An inventory of woodlands within the study area was conducted utilizing aerial photo interpretation and field inspection methods. Additional information that facilitated the precise identification of woodlands included detailed operational soil survey data. Woodlands, for purposes of this study, were defined as those upland areas one acre or more in size having 17 or more trees per acre each measuring at least four inches in diameter at breast height, and a canopy cover of at least 50 percent. All conifer plantations one acre or more in size were also included in the woodland delineation. As previously noted, all lowland wooded areas, such as tamarack swamps and other lowland wooded areas have been classified as wetlands because the water table is located at, near, or above the land surface.

As shown on Map 9, woodlands five acres or larger in size are scattered throughout the study area. Most of these woodlands are located along the ridges and slopes adjacent to Nagawicka Lake and Pewaukee Lake, and along the edges of wetland areas associated with the Bark River. The lack of woodlands on the flat upland portions of the study area may largely be attributed to the historic intensive agricultural activity in the area.

Three significant woodland areas are located within the corporate limits of the Village of Hartland. One woodland is located in the northwest corner of the Village west of the Chestnut Ridge Subdivision. The second woodland is located north of the Hart-ridge Subdivision along the eastern edge of the Village. The third woodland is a tree farm located immediately east of Maple Avenue and south of Capitol Drive. There are 1,557.8 acres of woodlands within the study area, which represents about 10 percent of the study area.

Wildlife Habitat: During the past 150 years, wildlife habitat in the study area has gradually decreased in quality and quantity primarily because of the numerous, far-reaching, man-made alterations to the natural environment. The remaining wildlife habitat is an important element of the natural resource base of the study area. Aside from the aesthetic, educational, and recreational values associated with wildlife habitat, such areas maintain an important role in local ecology by aiding in the control of harmful insects and other noxious pests. Therefore, a conscious effort should be made to protect remaining wildlife habitat from further intrusions by new development in the study area.

Wildlife habitat in the study area has been categorized as either high-, medium-, or low-value sites. The location and corresponding values of the remaining wildlife habitat in the study area are also shown on Map 9. As indicated on Map 9, the majority of wildlife habitat in the study area has either high or medium values. These areas are generally associated with the wetlands near the Bark River in the central portion of the study area and with upland woods scattered throughout the southern one-half of the study area. Low-value wildlife habitat generally occur in small woodland stands—less than 40 acres in size—which are scattered throughout the study area.

As depicted in Table 11, in 1970 there was a total of 2,187 acres of wildlife habitat within the study area, comprising 14 percent of the study area. Of this total, approximately 946 acres, or about 43 percent of all wildlife habitat in the study area, were considered to be high-value habitat; approximately 967 acres, or about 44 percent, were considered to be medium-value habitat; and 274 acres, or about 13 percent, were considered to be low-value habitat. It should also be noted that from 1963 and 1970, 96 acres, or about 14 percent, of wildlife habitat within the study area were lost to urban development.

Rugged Terrain and Other Topographic Features

The topography, or relative elevation, of the land in the study area has been generally determined by the parent bedrock geology of the area and the manner in which glacial till was deposited on the bedrock during the advance and recession of ancient glacial stages. The study area generally consists of rolling ground moraine, with hills and ridges interspersed by broad undulating plains. As shown on Map 10, the elevation of the study area

Table 11

WILDLIFE HABITAT IN THE VILLAGE OF HARTLAND STUDY AREA BY VALUE: 1963-1970

| Value | 1963 | 1970 | | | Change: 1963-1970 | |
|-------------------------------------|-------------|-------------|---------------------------------|------------------------------------|-------------------|---------|
| | Gross Acres | Gross Acres | Percent of All Wildlife Habitat | Percent of Total Area ^a | Gross Acres | Percent |
| High-Value ^b | 983 | 946 | 43.3 | 6.0 | 37 | 3.8 |
| Medium-Value ^c | 1,007 | 967 | 44.2 | 6.2 | 40 | 4.0 |
| Low-Value ^d | 293 | 274 | 12.5 | 1.8 | 19 | 6.5 |
| Total | 2,283 | 2,187 | 100.0 | 14.0 | 96 | 14.3 |

^a Study area consists of 15,614.5 acres.

^b High-Value Habitat—The area has a high diversity of species and the territorial requirements of the major species are met, in that minimum population levels are possible. The structure and composition of the vegetation provide for nesting, travel routes, concealment, and modification of weather impact. Also, the area has undergone little or no disturbance and is located in close proximity to other wildlife habitat areas.

^c Medium-Value Habitat—Maintains all of the criteria described for a high value habitat, but at a lower level. The species diversity may not be as high as in the high-value areas. The territorial requirements of the major species may not be met, in that minimum population levels are not possible or are just barely met. The structure and composition of the vegetation may not adequately provide for nesting, travel routes, concealment, or modification of weather impact. The area may have undergone disturbance and also, may not be located in close proximity to other wildlife habitat areas. Deficiencies in any one or more of these factors may contribute to the area's classification as a medium-value wildlife habitat area.

^d Low-Value Habitat—These areas are of a supplemental or remnant nature. They are usually considerably disturbed; however, they are included as they either provide the only available range in the region, supplementing areas of a higher quality, or provide corridors linking higher habitat areas.

Source: SEWRPC.

consists of elevations from 890 feet to 1,050 feet above mean sea level datum.

The slope of a given parcel of land to a great extent determines the use capability of that parcel. Lands with very steep slopes or rugged terrain are poorly suited for urban development as well as for most agricultural purposes. Conversely, lands which are nearly level or gently sloping tend to be best suited for urban development and agricultural production.

Steep Slopes: Map 10 shows two classifications of steep slopes in the study area. The areas shown in the orange tone on the map contain slopes ranging from 12 to 19 percent. The areas shown in the brown tone contain slopes of 20 percent or greater. In general, slopes of 12 percent or greater should not be considered for high- or medium-density urban residential development. To the extent practicable, such areas should remain in open space land uses.

Scenic Vistas and Viewpoints: Scenic vistas are areas that provide a panoramic or picturesque view, comprised of a variety of natural resource features.

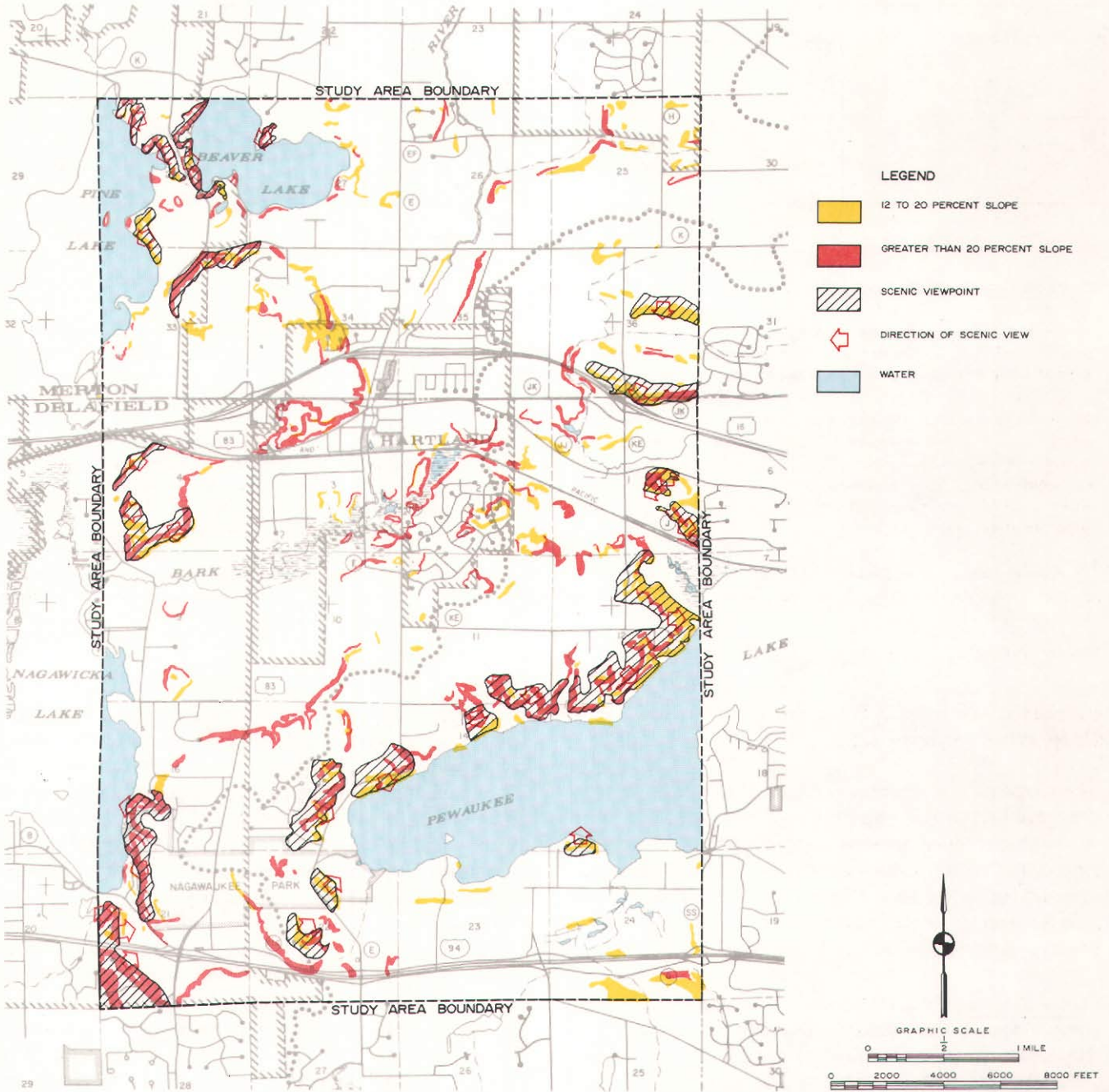
There are two components of a scenic vista; the picturesque view itself and the point from which it is viewed. The components of panoramic or picturesque views consist of natural features such as surface water, woodlands, wetlands, and agricultural lands. The land use plan contained herein recommends that lands containing the best remaining natural features in the study area be preserved through the implementation of certain land use regulations and land acquisition measures. However, such lands may not necessarily include the viewpoints from which these natural features can be viewed and enjoyed. Therefore, the viewpoints from which scenic vistas can be viewed should be identified and protected from disruptive forms of development just as the natural features constituting scenic vistas should be identified and protected.

An inventory of scenic viewpoints was conducted as a part of the village land use planning effort. The scenic viewpoints identified in the study area meet all of the following criteria:

1. They are located at least 30 feet in elevation above surrounding lands.

Map 10

**RUGGED TERRAIN AND OTHER TOPOGRAPHIC FEATURES
IN THE VILLAGE OF HARTLAND STUDY AREA: 1979**



Source: SEWRPC.

2. They contain slopes of 12 percent or greater.
3. They consist of a ridge at least 200 feet in length.
4. They have a view within approximately one-half of a mile of at least three of the following natural resource features: surface water, wetlands, woodlands, agricultural lands and/or other significant geological features.

Areas classified as scenic viewpoints in the study area are shown on Map 10, with arrows showing the direction of the scenic view or vista.

Public and Private Open Space and Related Features

Existing Outdoor Recreation Sites: An inventory of the size and location of existing outdoor recreation sites provides a basis for evaluating the extent to which existing community recreational needs are being met and can further provide a basis for determining future outdoor recreation site needs. Existing outdoor recreation sites in the study area have been identified and classified according to their size and function into one of four categories in SEWRPC Planning Report No. 27, A Regional Park and Open Space Plan for Southeastern Wisconsin: 2000.

Type I and Type II parks are large, public, general use outdoor recreation sites which generally provide opportunities for such activities as camping, golfing, picnicking, and swimming and have a large area containing significant natural resource amenities. Type II parks range in area from 100 to 249 acres, while Type I parks are 250 acres or more in size. Type I and Type II parks should typically provide diverse and unique or specialized recreational opportunities which are not available in smaller park sites, and should serve regional and multi-community areas, respectively. Type III parks, from 25 to 99 acres in size, and Type IV parks, less than 25 acres in size, provide opportunities for intensive nonresource-oriented outdoor recreation activities such as baseball, basketball, ice skating, softball, and tennis, and are provided primarily to meet community and neighborhood level recreation needs.

Table 12 lists existing outdoor recreation sites by type in the Village of Hartland sewer service area and in the remainder of the study area. Although not generally perceived as parks, school-owned playgrounds and playfields have been included

in this listing because they also provide areas for intensive recreation activities at the neighborhood and community levels. As indicated in Table 12, the Village of Hartland sewer service area contains two Type III sites, totaling 125 acres, and 12 Type IV sites, totaling 87 acres. The Village of Hartland sewer service area has no Type I or Type II outdoor recreation sites. The remainder of the study area contains two Type I sites, totaling 572 acres; two Type II sites, totaling 329 acres; two Type III sites, totaling 82 acres; eight Type IV sites, totaling 27 acres; and one single use site of 2 acres. All of the above sites are either special use outdoor recreation sites, offering specialized recreational pursuits or spectator-oriented facilities, or general use outdoor recreation sites, providing space and facilities for outdoor recreation activities. Existing outdoor recreation sites in the study area are shown on Map 11.

Potential Outdoor Recreation and Related Open Space Sites: The Regional Planning Commission conducted an inventory of potential park sites within the Region in 1963, which was later updated in 1975. The overall objective of this inventory was to identify all remaining potential park sites within the Region and to classify these sites with respect to their value. The potential park site inventory, as updated in 1975, identified a total of 197 potential park sites in Waukesha County, comprising a total of 43,598 acres. Nine of these sites are located within the study area, and together they have an area of approximately 1,781 acres. Map 11 identifies these nine sites and indicates whether a given site has a high-, medium-, or low-value park development potential. The value rating for each potential park site is based upon an analysis of the type and quality of natural resource amenities and the natural resource requirements of selected recreational activities. The majority of potential park sites, as shown on Map 11, are located in large woodland and wetland areas along the eastern edge of the study area. Also, some potential park sites are located along the bluffs and upland areas adjacent to the north shoreline of Pewaukee Lake. The potential park sites identified within the study area have significant natural resource amenities and thus offer some of the best potential for the provision of high-quality outdoor recreational experiences.

Historic Sites and Structures: The inventory of notable historic sites within the Region conducted by the Regional Planning Commission in 1977 identified three such sites within the study area.

Table 12

EXISTING OUTDOOR RECREATION SITES IN THE VILLAGE OF HARTLAND STUDY AREA: 1979

| Area | Recreation Site Classification | Name of Site | Net Acres | |
|--|----------------------------------|-------------------------------------|-----------|-----------|
| | | | Public | Nonpublic |
| Village of Hartland Sewer Service Area | Type III Community | Arrowhead Union High School | 94 | -- |
| | | Hartridge Park | 31 | -- |
| | Type IV Neighborhood | Hartbrook Park | 10 | -- |
| | | Sunnyslope Park | 1 | -- |
| | | Hilger Park | 2 | -- |
| | | Hartland Athletic Association Field | -- | 2 |
| | | Bark River Park | 6 | -- |
| | | Nixon Park | 16 | -- |
| | | Hartland North Elementary School | 11 | -- |
| | | St. Charles School | -- | 10 |
| | | Castle Park | 7 | -- |
| | | Nottingham Park | 6 | -- |
| | Hartland South Elementary School | 13 | -- | |
| Chestnut Ridge Park | -- | 3 | | |
| Subtotal | | 197 | 15 | |
| Remainder of the Study Area | Type I Regional | Nagawaukee Park | 290 | -- |
| | | Tumblebrook Golf Course | -- | 282 |
| | Type II Multi-Community | Chenequa Country Club | -- | 144 |
| | | University Lake High School | -- | 185 |
| | Type III Community | Little Swiss Valley Ski Area | -- | 14 |
| | | Lakeside Golf Course | -- | 68 |
| | Type IV Neighborhood | Swallow School | 10 | -- |
| | | Bark River School | 4 | -- |
| | | Lakeside School | 3 | -- |
| | | Nagawicka Yacht Club | -- | 1 |
| Zion School | | 3 | -- | |
| Golden Anchor's Launch | | -- | 1 | |
| St. Anthony at the Lake School | | -- | 3 | |
| Jolly Fisherman | -- | 2 | | |
| Single Use Site | Pewaukee Yacht Club | -- | 2 | |
| Subtotal | | 310 | 702 | |
| Total | | 507 | 717 | |

Source: SEWRPC.

These sites are depicted on Map 11. These historic sites can be broadly classified by type as being either structural or cultural in nature. Of the three historic sites, two—the Hartland Settlement House and the Gustaf Unonious Marker—are cultural sites. The third historic site, Burr Oak House, located in the central portion of the Village, is a structural site. These sites are significant remnants of Hart-

land's past. They reflect the small village character and past ethnic culture of Hartland as it existed before the turn of the century, and thus help to provide a sense of identity to the community. The Village should work to preserve these locally valuable sites. Furthermore, only land uses which are compatible with these sites should be developed on adjacent developable lands.

Table 13

NATURAL AREAS LOCATED IN THE VILLAGE OF HARTLAND STUDY AREA: 1977

| Classification ^a | Location (U. S. Public Land Survey) | | | | | | Plant Community Type, Features, and Remarks |
|-----------------------------|---|-----------|---------|-------------------------|-----------------|--|--|
| | Area Name | Township | Section | Quarter- Section | Size (acres) | Ownership | |
| NA-2 | North Pewaukee Lake Wetland Complex | T7N, R19E | 7 | Northwest | 40 | Private | Shallow marsh, southern sedge meadow, and shrub carr complex. This wetland complex has been disturbed by water level changes caused by ditching in the western portion of the area |
| | | T7N, R18E | 12 | Southeast | | | |
| NA-2 | Pewaukee Lake Access Nature Study Area | T7N, R18E | 22 | Northeast | 15 | Waukesha County Park and Planning Commission | Shallow marsh, shrub carr, and fen on the west end of Pewaukee Lake |
| NA-2 | Nagawicka Oak Opening | T7N, R18E | 22 | Southwest | 15 | Private | An oak savanna with dry and dry-mesic prairie species with a past history of grazing |
| NA-3 | Arrowhead Study Site | T8N, R18E | 34 | Southeast, Southwest | 30 | Private | A typical Kettle Moraine forest and oak opening used as a study area by the Arrowhead High School |
| NA-3 | University Lake School Forest | T7N, R18E | 4 | Northwest, Southwest | 60 | Private | Southern dry-mesic to dry hardwoods; very brushy in drier portions. Surrounds the University Lake School |
| NA-3 | Railroad Prairie Nagawicka Lake Cedar Glade | T7N, R18E | 2 | Northeast | 2 | Private | Dry prairie and oak opening |
| NA-3 | | T7N, R18E | 16 | Southwest | 1 | Waukesha County Park and Planning Commission | A small cedar glade with a nice composition of dry prairie species; tall dropseed (<i>Sporobolus asper</i>) is dominant and the area contains stiff gentian (<i>Gentiana quinquefolia</i>) |

^aNA-1: Natural area of statewide or greater significance.

NA-2: Natural area of county or regional significance.

NA-3: Natural area of local significance.

Source: Natural Areas Inventory, Waukesha County.

Natural and Scientific Areas: Natural area sites are defined as areas which contain plant and animal communities which have remained essentially unchanged since presettlement conditions. Such sites often serve as sanctuaries for threatened or endangered plant and animal species. Scientific area sites are areas designated by the Scientific Areas Preservation Council which have biotic communities and other significant natural features native to the Region, and have value for scientific study. As shown on Map 11, and summarized in Table 13, there are seven natural area sites in the study area encompassing a total of approximately 163 acres. There are no scientific area sites in the study area. If urbanization within the study area continues as anticipated, the continued existence of these areas will become increasingly threatened. Thoughtful land use planning and sustained natural area management practices will be required to preserve these areas.

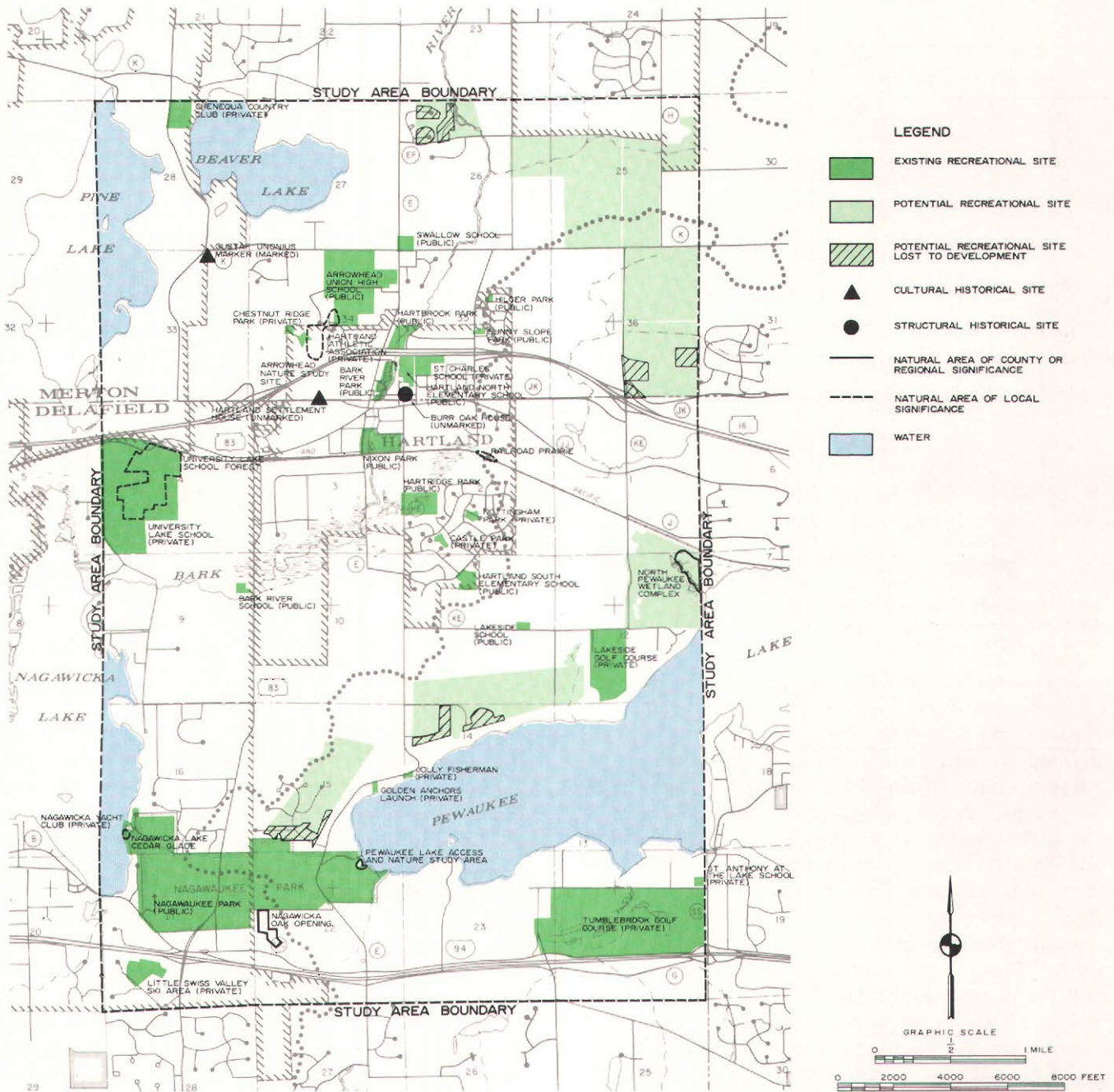
Environmental Corridors: Commission studies have shown that the best remaining elements of the natural resource base of southeastern Wisconsin

occur in elongated, linear patterns which the Commission has termed environmental corridors. There are nine elements of the natural resource base which are considered as the basic elements which comprise environmental corridors: lakes, rivers, streams, and associated shoreline areas; 100-year recurrence interval floodplains; organic soils; wetlands; woodlands; prairies; wildlife habitat areas; rugged terrain; and significant geological formations. There are an additional five natural resource-related elements which, although not a part of the natural resource base, are also used in delineating environmental corridors. These elements are existing parks, potential parks, historic sites and structures, natural and scientific areas, and scenic vistas and viewpoints. Environmental corridors within the study area consist of three types; primary environmental corridors, secondary environmental corridors, and isolated natural areas.

Because of the many interlocking and interacting relationships existing between living organisms and their environment, the destruction or deterioration of one element of the total environment may lead

Map 11

PUBLIC AND PRIVATE OPEN SPACE AND RELATED FEATURES
IN THE VILLAGE OF HARTLAND STUDY AREA: 1979



Source: SEWRPC.

to a chain reaction of deterioration and destruction. The drainage of wetlands, for example, may have far-reaching effects, since such drainage may destroy fish-spawning grounds, wildlife habitat, groundwater recharge areas, and the natural filtration action and floodwater storage areas of inter-connecting lake and stream systems. The resulting deterioration of surface water quality may, in turn, lead to deterioration of the quality of the groundwater which serves as a source of domestic, municipal, and industrial water supply and on which low flows in rivers and streams may depend. Similarly, the destruction of woodland cover, which may have taken a century to develop, may result in soil erosion and stream siltation and in more rapid runoff and increased flooding, as well as destruction of wildlife habitat. Although the effects of any one of these environmental changes may not in and of itself be overwhelming, the combined effects will eventually create serious environmental and developmental problems. These problems include flooding, water pollution, deterioration and destruction of wildlife habitat, loss of groundwater recharge areas, and destruction of the unique natural beauty of the area. The need to maintain the integrity of the remaining environmental corridors thus becomes apparent. The adopted regional land use plan accordingly recommends that environmental corridors be maintained in an essentially open, natural state, which may, in some cases, include limited agricultural uses and very low-density residential uses.

The Regional Planning Commission has identified environmental corridors in the study area using the following methodology:

1. Point values between 1 and 20 were assigned to each of the natural resource and natural resource-related elements. These point values were based on the premise that those natural resource elements having intrinsic natural resource values and a high degree of natural diversity should be assigned relatively high point values, whereas natural resource-related elements having only implied natural values should be assigned relatively low point values.
2. Each element was then depicted on 1" = 1000' scale base maps of the study area.
3. Cumulative point values were totaled for all areas containing natural resource and natural resource-related elements.

4. Environmental corridors were then delineated based on the following:

- a. Areas having point values of 10 or greater, with a minimum area of 400 acres and a minimum length of two miles, were designated as primary environmental corridors.
- b. Areas having point values of five or greater, with a minimum area of 100 acres and a minimum length of one mile, were designated as secondary environmental corridors.
- c. Isolated areas having point values of 10 or greater, with a minimum area of five acres, were designated as isolated natural areas.
- d. For separate areas with corridor values, linking segments were identified to establish corridor continuity when such areas met the following qualifications:

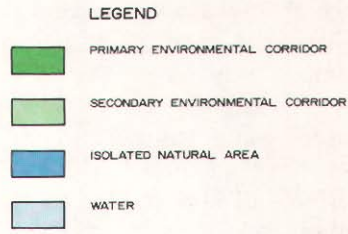
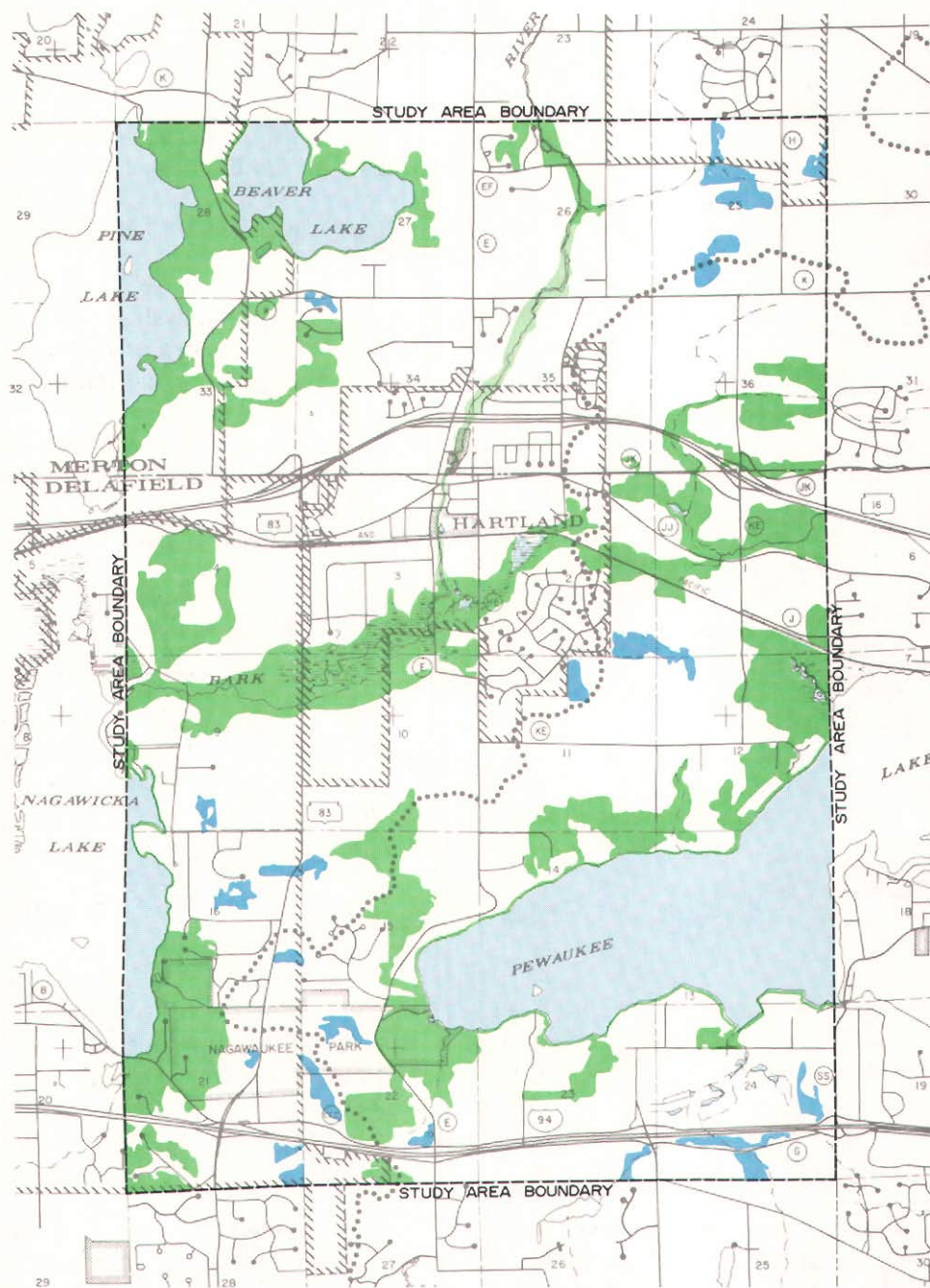
| <u>Acres of Corridor Value Lands</u> | <u>Maximum Continuity Distance</u> |
|--|--|
| 640+ | 2,640 feet (1/2 mile) |
| 320-639 | 1,760 feet (1/3 mile) |
| 160-319 | 1,320 feet (1/4 mile) |
| 80-159 | 880 feet (1/6 mile) |
| 40-79 | 660 feet (1/8 mile) |
| 20-39 | 440 feet (1/12 mile) |
| 5-19 | 220 feet (1/24 mile) |

It should be noted that detailed information concerning the nature and extent of prairies and significant geological features was not available for use in the application of the corridor identification methodology. However, these characteristics were generally considered during the conduct of the delineation procedure.

Map 12 depicts the delineated primary and secondary environmental corridors in the study area as well as isolated natural areas as previously described. A total of approximately 4,553 acres, or 29.2 percent of the study area, has been delineated as primary environmental corridor. These areas should be preserved in essentially natural, open uses, and should be protected by a combination of zoning regulations and public land acquisition strategies. Secondary environmental corridors total approximately 64 acres, or 0.4 percent of

Map 12

PRIMARY AND SECONDARY ENVIRONMENTAL CORRIDORS AND ISOLATED NATURAL AREAS IN THE VILLAGE OF HARTLAND STUDY AREA: 1979



Source: SEWRPC.

the study area. These areas should be considered for retention in park and open space use—particularly within the urbanizing portions of the study area—as greenways, drainageways, storm water detention and retention areas, and public and private open spaces. Isolated natural areas total approximately 215 acres, or 1.4 percent of the study area. Although these areas are separated geographically from the environmental corridors, in some instances they may have sufficient natural resource value to warrant zoning protection or to be preserved in natural, open uses in conjunction with the development of surrounding lands.

Prime Agricultural Land

In 1964 prime agricultural lands were delineated by the Commission in cooperation with the county agricultural agents and the U. S. Department of Agriculture, Soil Conservation Service district staff. The extent and spatial distribution of prime agricultural lands as originally delineated is shown on Map 2. Approximately 4,400 acres, or about 28.2 percent of the study area, was classified as prime agricultural land in that original inventory. As shown on Map 2, the locations of these prime agricultural lands were primarily in the eastern and south-central portions of the study area. However, since this delineation was made, substantial amounts of these prime agricultural lands have been converted from agricultural to urban use.

The Wisconsin Farmland Preservation Act provides for the preparation of county farmland preservation plans, and state income tax credits for the maintenance of farmland in delineated preservation areas. Ultimately, only those farmers owning lands within delineated prime agricultural areas which are zoned for exclusive agricultural use will be eligible for the full state income tax credits provided under the law.

The Commission has assisted in the establishment of new criteria for delineating prime agricultural lands in conjunction with the preparation of agricultural land preservation plans in other parts of the Region. The criteria currently in use in delineating prime agricultural lands consist of the following:

1. At least 50 percent of the farm unit should be covered by soils which are exceptionally productive for agricultural purposes.¹

¹ Information concerning the above criteria as they pertain to the study area is shown on Map 13.

2. The farm unit should be at least 35 acres in size.
3. The farm unit should occur in relatively homogeneous concentrations of similar farms, the areas of concentration being at least 640 acres in area.

In 1976 the U. S. Department of Agriculture, Soil Conservation Service, set forth a classification system for use in the preparation of agricultural capability maps.² Map 13 depicts the agricultural capability of lands in the study area based upon the federal classification system. This map classifies land as either national prime farmland, unique farmland, or farmland of statewide significance. National prime farmland is defined as land best suited for producing food, feed, forage, fiber, and oilseed crops, and also is available for these crops. Unique farmland is defined as land other than prime farmland that is used for the production of specific high-value food and fiber crops. Farmlands producing such crops as cranberries, apples, cherries, and mint are considered unique farmland. Farmland of statewide significance is defined as land of a lower order than national prime and unique farmland, but still of statewide importance in the production of food, feed, fiber, forage, and oilseed crops.

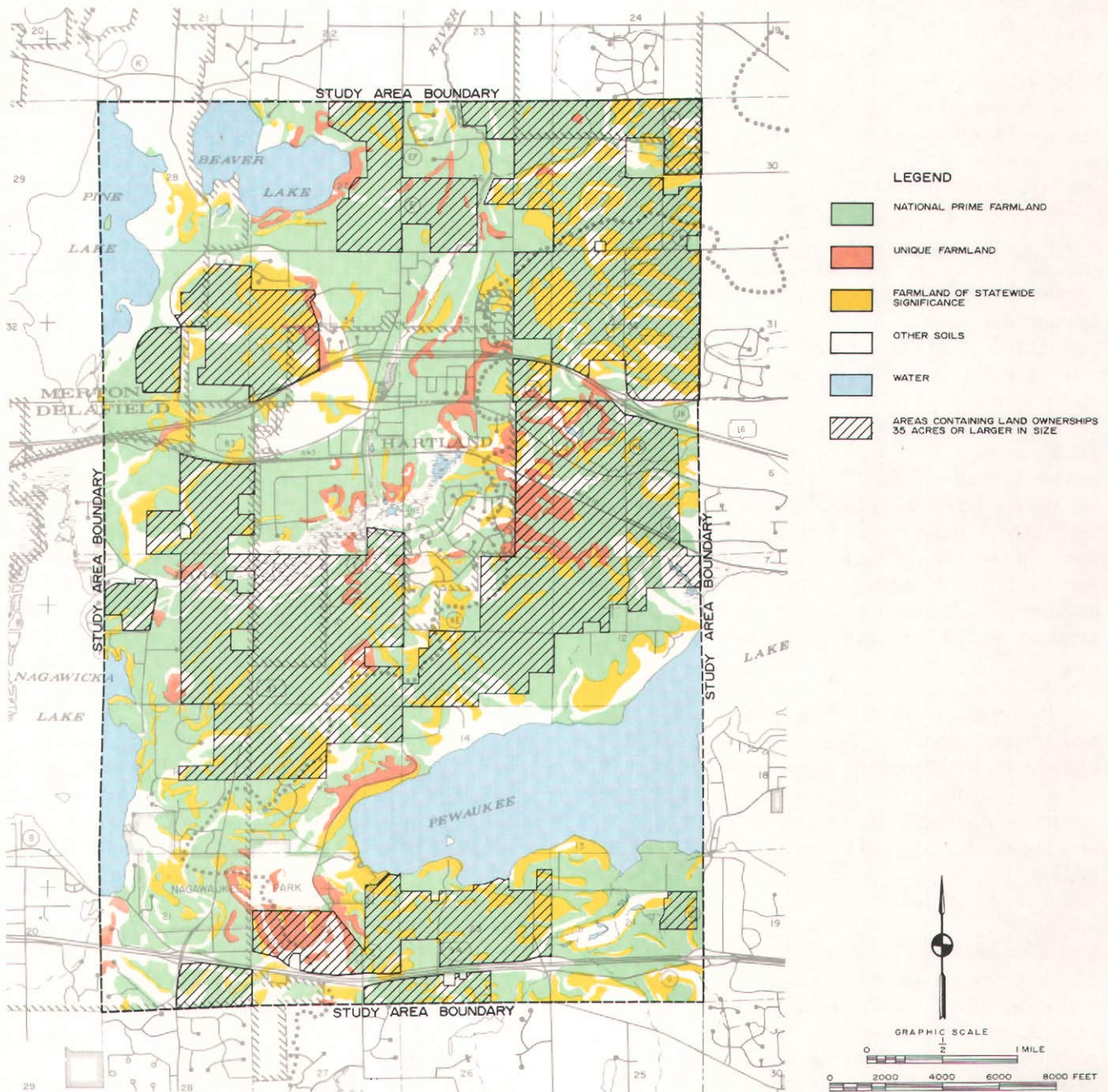
As shown on Map 13, the majority of lands in the study area, approximately 8,022 acres, or about 51 percent of the total land, are classified as national prime farmland. Unique farmlands comprise an additional 641 acres, or 4 percent, of the total lands in the study area. Farmlands of statewide significance comprise an additional 2,188 acres, or 14 percent of the total lands. These three categories of lands are considered to be exceptionally productive for agricultural purposes. Other open lands, as shown on Map 13, comprise 2,666 acres, or 17 percent of the total study area, and are considered poorly suited for agricultural use. A remaining portion of the study area, comprising an area of 2,097 acres, consists of surface water.

Map 13 also identifies those areas containing land ownerships 35 acres or larger in size. As indicated on the map, land ownerships 35 acres or larger comprise a majority of all lands in the study area, but occur in a scattered pattern. Concentrations of

² See: *Land Inventory and Monitoring Memorandum WI-1, U. S. Department of Agriculture, Soil Conservation Service, December 3, 1976.*

Map 13

AGRICULTURAL CAPABILITY OF SOILS AND LAND OWNERSHIPS 35 ACRES OR LARGER IN SIZE IN THE VILLAGE OF HARTLAND STUDY AREA: 1979



Source: SEWRPC.

land ownerships of 35 acres or larger in size which make a total of at least 640 acres are indicated on Map 13.

Map 14 shows initially delineated prime agricultural lands within the study area resulting from the application of the aforementioned criteria, together with the delineated environmental corridor lands. Initially delineated prime agricultural lands of approximately 3,480 acres, or 22 percent of the study area, are generally concentrated in the eastern and central portions of the study area.

MAN-MADE ENVIRONMENT

Existing Land Use

If the Hartland land use plan is to be a sound and realistic guide to the making of decisions concerning the physical development of the study area, it must be based upon careful consideration of the existing land use patterns as well as upon the physical characteristics of the land itself. In February of 1979, a special field survey was conducted in the study area to determine the nature and extent of existing land use. The data compiled from this survey, when assembled in mapped and tabular form, provided important information concerning the geographic relationships between different land uses and provided an indication as to the general character of existing development in the study area. The existing land uses in the study area are shown graphically on Map 15, and the amount of land in the area devoted to each of the various land use categories is set forth in Table 14. The existing land uses in the incorporated area of the Village of Hartland are shown in detail on Map 16, and the amount of land in the Village devoted to each of the various land use categories is set forth in Table 15.

The study area consists of approximately 15,614 acres, or 24 square miles. In 1979 urban land use—i.e., residential, commercial, industrial, institutional, recreational, transportation, and utilities—in the study area occupied 4,764 acres, or about 30 percent of the study area; while rural land use—i.e., agricultural and related open lands, woodlands, wetlands, and surface water—occupied 10,850 acres, or about 70 percent of the study area. The incorporated Village occupies approximately 1,891 acres, or 12 percent of the total study area. Urban land uses in the incorporated Village occupy 1,250 acres, or about 66 percent of the Village area; while rural land uses occupy 641 acres, or about 34 percent.

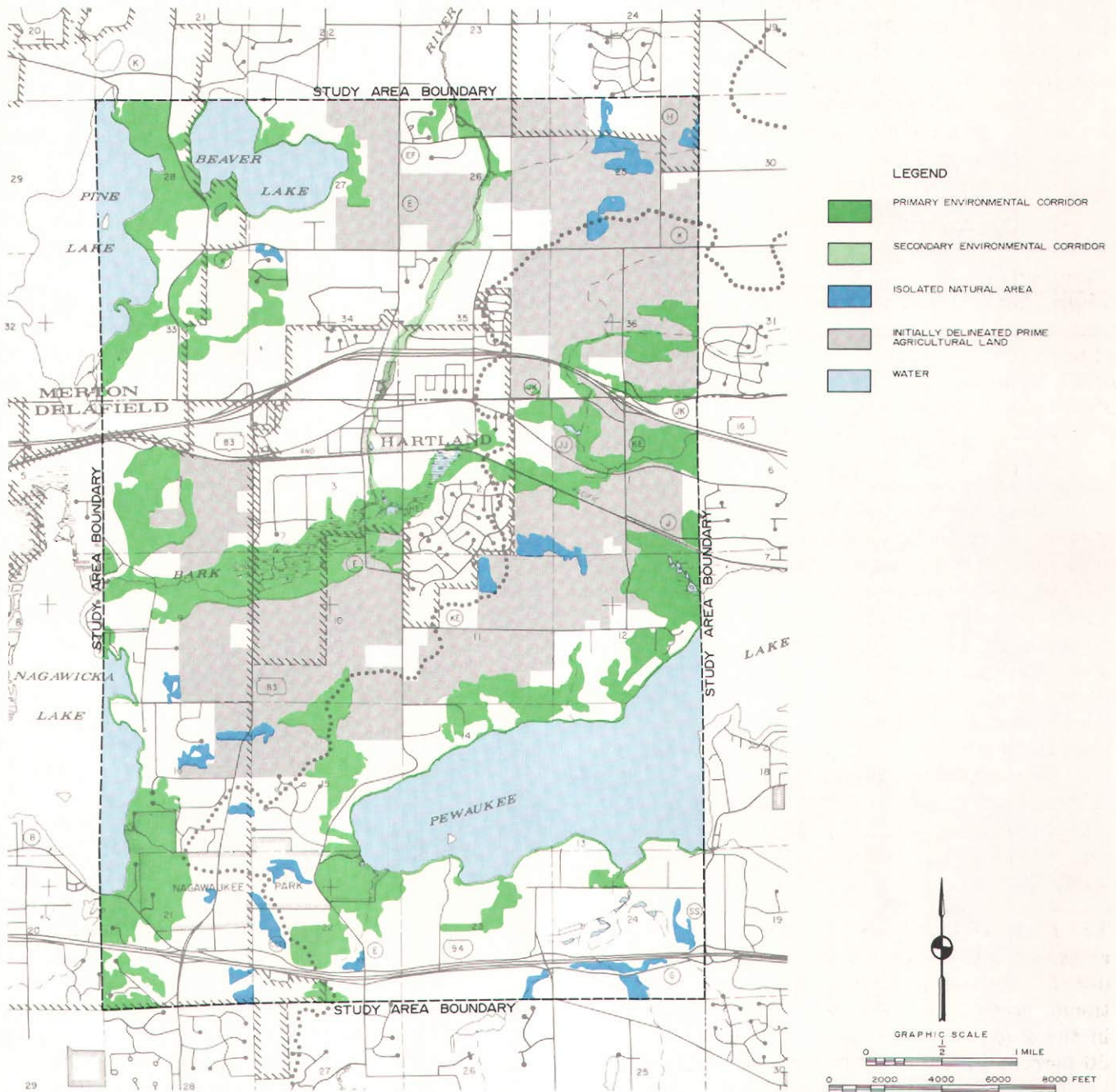
Residential Land Use: Most of the developed lands in the Village as well as in the study area are being used for residential purposes. The nature and extent of residential development is a major determinant of the level of community utilities and community facilities needed to serve local residents. In 1979, residential land use in the study area accounted for approximately 54 percent of the developed urban portions of the study area, or about 16 percent of the total study area. In 1970 there were 2,066 acres of land developed or under development for residential use. In 1979 this figure had increased to a total of 2,568 acres, an increase of 502 acres, or 24 percent. In the Village of Hartland, residential land use accounted for 51 percent of the developed urban area, and 34 percent of the total village area. Residential land uses in the study area are concentrated in the northern and southern portions of the Village of Hartland and along the shoreland areas adjacent to Pewaukee Lake, Nagawicka Lake, Pine Lake, and Beaver Lake.

There are about 69 acres of multiple-family residential development in the Village. This acreage represents approximately 11 percent of all residential land in the Village. Multiple-family residential development in the Village is concentrated in three locations: the northwest corner of the Village along the south side of STH 16; along Hartridge Drive east of Maple Avenue; and north of the Hartbrook Shopping Center.

Commercial Land Use: In 1979 commercial land uses accounted for 76.1 acres, or 1.6 percent of the urban land uses and 0.5 percent of the total land uses in the study area. This figure represents an increase of 30.3 acres from the 1970 commercial land use total of 45.8 acres. Commercial land uses in the Village account for 40 acres, or 3.3 percent of the urban land uses, and 2.1 percent of the total land uses in the Village. Commercial land uses in the Village are concentrated in two general areas—the old village central business district and the relatively new Hartbrook Mall located adjacent to USH 16 at the north end of the Village. The business establishments located in these two commercial areas primarily consist of convenience commercial establishments along with a few specialty shops, appliance and dry goods shops, and professional offices. The limited range of goods and services offered by existing commercial establishments in the Village of Hartland indicates that a major portion of the commercial needs of local residents are satisfied outside the community. It

Map 14

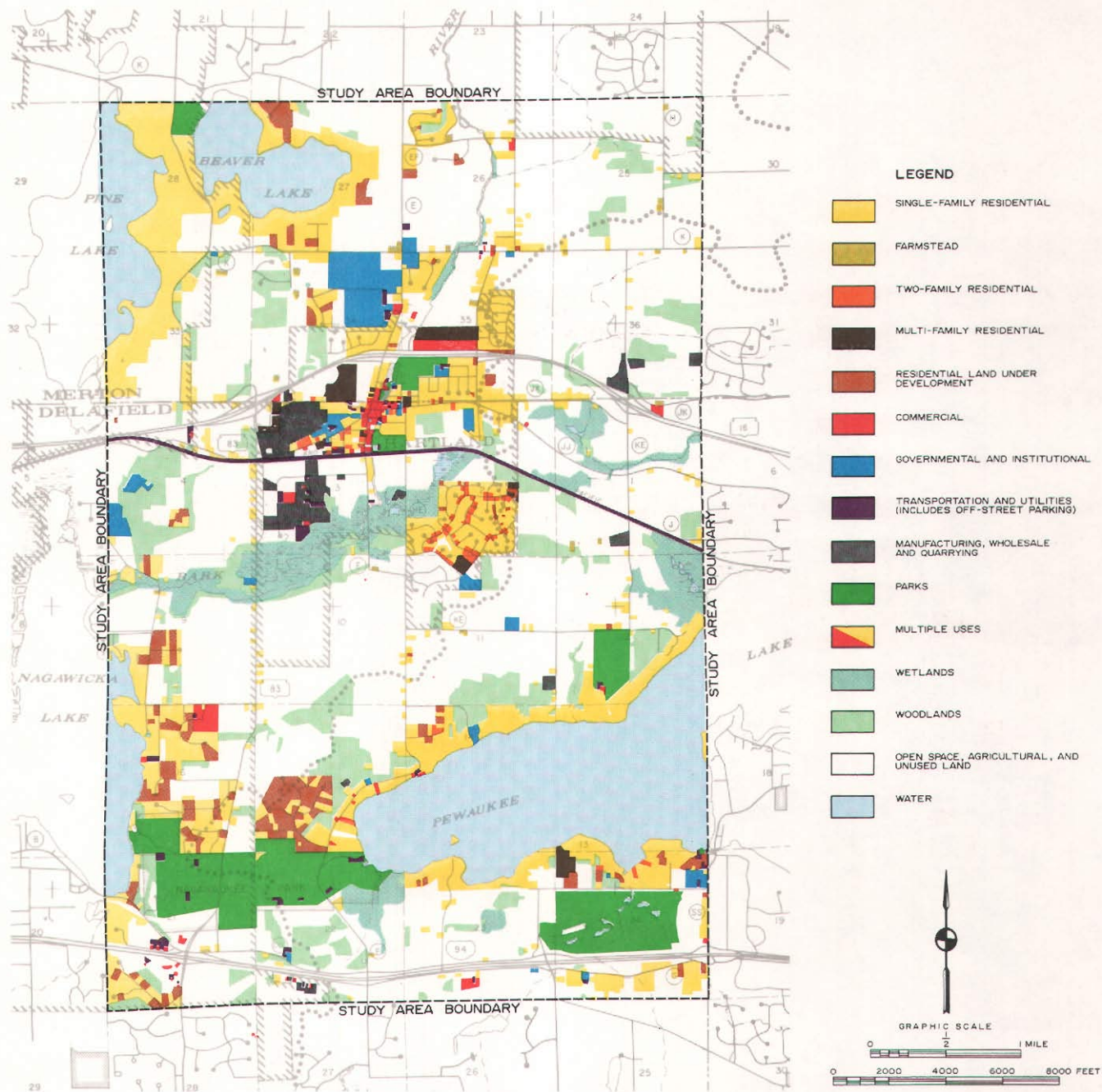
ENVIRONMENTAL CORRIDORS AND INITIALLY DELINEATED PRIME AGRICULTURAL LANDS IN THE VILLAGE OF HARTLAND STUDY AREA: 1979



Source: SEWRPC.

Map 15

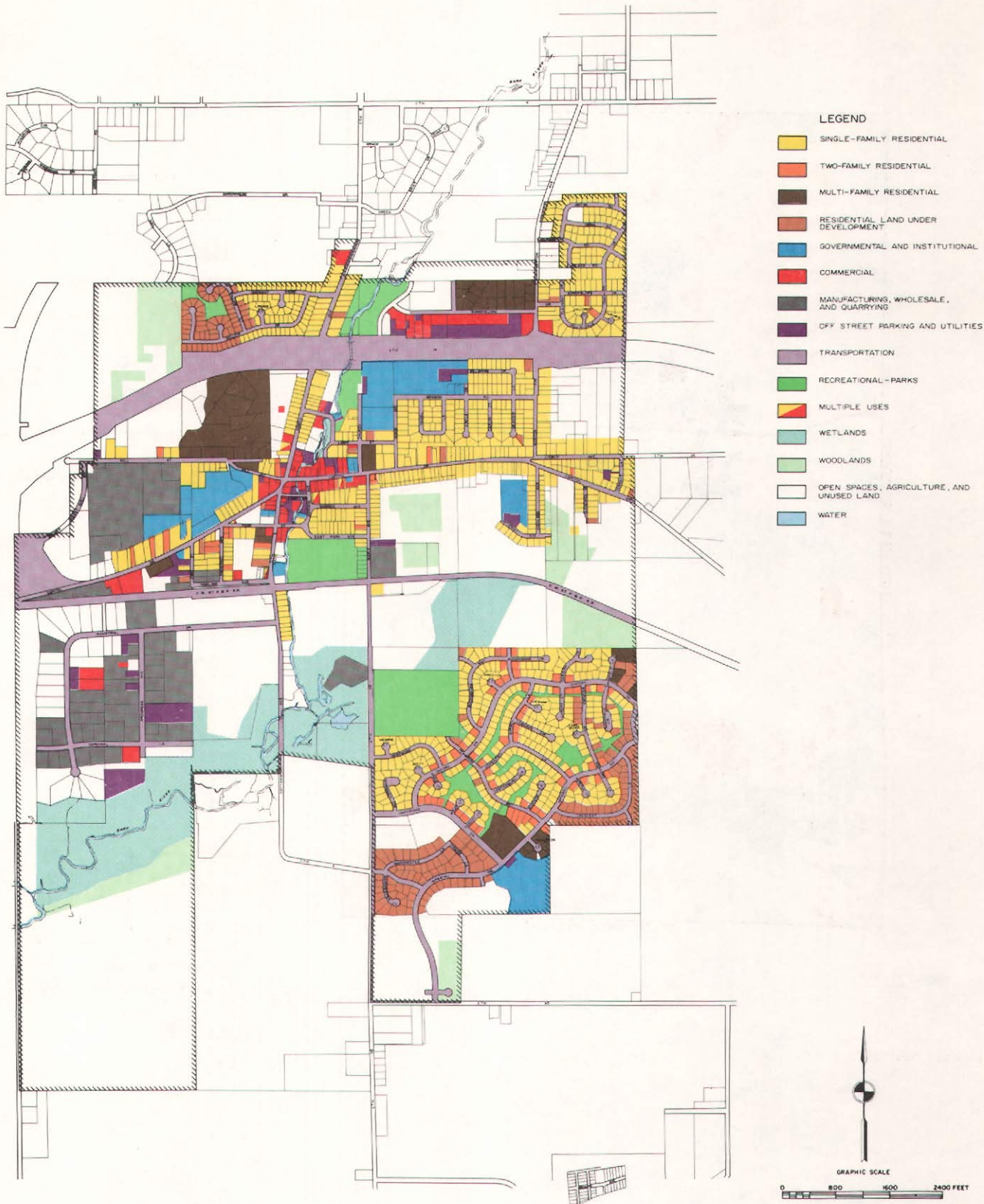
EXISTING LAND USE IN THE VILLAGE OF HARTLAND STUDY AREA: 1979



Source: SEWRPC.

Map 16

EXISTING LAND USE IN THE VILLAGE OF HARTLAND: 1979



Source: SEWRPC.

Table 14

SUMMARY OF HISTORICAL AND EXISTING LAND USE IN THE VILLAGE OF HARTLAND STUDY AREA: 1979

| Land Use Categories | Acres | | | Percent of Subtotal (1979) | Percent of Total Study Area (1979) |
|--|----------|----------|----------|----------------------------|------------------------------------|
| | 1963 | 1970 | 1979 | | |
| Urban | | | | | |
| Residential | | | | | |
| Single-Family | 1,464.5 | 1,733.7 | 2,014.2 | 42.3 | 12.9 |
| Two-Family | 6.0 | 6.4 | 34.6 | 0.7 | 0.2 |
| Multiple-Family | 1.3 | 14.3 | 97.1 | 2.0 | 0.7 |
| Vacant Residential Land | 174.7 | 311.5 | 421.8 | 8.9 | 2.7 |
| Total Residential | 1,646.5 | 2,065.9 | 2,567.7 | 53.9 | 16.5 |
| Commercial | 51.6 | 45.8 | 76.1 | 1.6 | 0.5 |
| Industrial | | | | | |
| Manufacturing and Wholesale | 9.6 | 16.3 | 52.6 | 1.1 | 0.3 |
| Quarrying | 143.1 | 93.8 | 106.4 | 2.2 | 0.7 |
| Vacant Industrial Land | -- | -- | 54.0 | 1.1 | 0.4 |
| Total Industrial | 152.7 | 110.1 | 213.0 | 4.4 | 1.4 |
| Transportation-Utilities | | | | | |
| Transportation | 655.3 | 713.5 | 736.6 | 15.5 | 4.7 |
| Off-Street Parking | 22.4 | 33.6 | 53.1 | 1.1 | 0.3 |
| Utilities | 69.9 | 69.7 | 72.2 | 1.5 | 0.5 |
| Total Transportation-Utilities | 747.6 | 816.8 | 861.9 | 18.1 | 5.5 |
| Governmental-Institutional | | | | | |
| Local | 24.5 | 39.7 | 45.2 | 0.9 | 0.3 |
| Regional | 50.4 | 119.9 | 190.8 | 4.0 | 1.2 |
| Total Governmental-Institutional | 74.9 | 159.6 | 236.0 | 5.0 | 1.5 |
| Recreational | | | | | |
| Local | 24.1 | 25.7 | 66.7 | 1.4 | 0.4 |
| Regional | 405.8 | 406.3 | 406.3 | 8.5 | 2.5 |
| Private and Other | 349.3 | 344.0 | 336.2 | 7.1 | 2.2 |
| Total Recreational | 779.2 | 776.0 | 809.2 | 17.0 | 5.1 |
| Urban Subtotal | 3,452.5 | 3,974.2 | 4,763.9 | 100.0 | 30.5 |
| Rural ^a | | | | | |
| Surface Water | 2,096.8 | 2,103.4 | 2,097.4 | 19.3 | 13.4 |
| Wetlands ^a | 542.7 | 516.7 | 996.7 | 9.2 | 6.4 |
| Woodlands ^a | 1,403.6 | 1,263.6 | 1,666.8 | 15.4 | 10.7 |
| Unused Lands and Landfills | 183.0 | 345.5 | 386.2 | 3.6 | 2.5 |
| Agricultural and Other Open Lands ^a | 7,935.9 | 7,411.1 | 5,677.0 | 52.3 | 36.4 |
| Farmsteads | -- | -- | 26.5 | 0.2 | 0.2 |
| Rural Subtotal | 12,162.0 | 11,640.3 | 10,850.6 | 100.0 | 69.5 |
| Total | 15,614.5 | 15,614.5 | 15,614.5 | -- | 100.0 |

^a The number of acres shown in wetlands and woodlands for 1979 are substantially higher than the number of acres shown in these categories for 1970. Also, the number of acres shown in agricultural and other open lands for 1979 is substantially lower than the number of acres shown in 1970. These differences are largely attributed to the fact that a new inventory of wetlands and woodlands was conducted in the study area in 1979, using identification criteria that were somewhat different from the criteria used in the 1963 and 1970 inventories. The wetland and woodland identification criteria used in the 1979 inventories are described in the discussion of wetlands and woodlands in this chapter.

Source: SEWRPC.

Table 15

SUMMARY OF EXISTING LAND USE IN THE VILLAGE OF HARTLAND: 1979

| Land Use Category | Acres | Percent of Subtotal | Percent of Total |
|--|--------------|---------------------|------------------|
| Urban | | | |
| Residential | | | |
| Single-Family | 378 | 30.2 | 20.0 |
| Two-Family | 27 | 2.2 | 1.4 |
| Multi-Family | 69 | 5.5 | 3.6 |
| Residential Land Under Development | 163 | 13.0 | 8.6 |
| Commercial | 40 | 3.2 | 2.1 |
| Commercial Land Under Development | 2 | 0.2 | 0.1 |
| Industrial | | | |
| Manufacturing and Wholesale | 88 | 7.0 | 4.7 |
| Quarrying | 66 | 5.3 | 3.5 |
| Manufacturing Land Under Development | 54 | 4.3 | 2.9 |
| Governmental and Institutional | 49 | 3.9 | 2.6 |
| Recreational | 103 | 8.2 | 5.4 |
| Transportation and Utilities | | | |
| Streets | 145 | 11.6 | 7.7 |
| Off-Street Parking ^a | 33 | 2.7 | 1.8 |
| Railroads | 26 | 2.1 | 1.4 |
| Utilities | 7 | 0.6 | 0.4 |
| Urban Subtotal | 1,250 | 100.0 | 66.2 |
| Rural | | | |
| Surface Water | 7 | 1.0 | 0.4 |
| Wetlands | 160 | 25.0 | 8.5 |
| Woodlands | 108 | 16.9 | 5.7 |
| Unused Lands and Landfills | 57 | 8.9 | 2.9 |
| Agricultural and Other Open Lands | 309 | 48.2 | 16.3 |
| Rural Subtotal | 641 | 100.0 | 33.8 |
| Total | 1,891 | -- | 100.0 |

^a Off-street parking areas containing 10 or more parking spaces.

Source: SEWRPC.

should be noted that the approved preliminary plan for the Hartridge residential planned unit development recommends that a neighborhood convenience commercial center be developed at the southeast corner of the intersection of Maple Avenue and Hartridge Drive.

Industrial Land Use: Industrial land uses account for 213.0 acres, or 4.4 percent of the urban land uses and 1.4 percent of the total land uses in the study area. This figure represents an increase of 115.6 acres over the 1970 industrial land use total of 97.4, most of which is attributed to recent development in the Hartland Industrial Park. Industrial land uses in the Village not including manufacturing land under development account for 154 acres, or 12.3 percent of the urban land

uses and 8.2 percent of the total land uses in the Village. Industrial land uses in the study area are concentrated in the western and southwestern portions of the Village. A large gravel pit, which is partially abandoned, is located at the western edge of the Village's corporate limits. The Hartland Industrial Park is located in the southwest corner of the Village. There is a vacant industrial building on the east side of Maple Avenue across the street from Nixon Park. In addition, there are a few small gravel pits located along the eastern edge of the study area.

Transportation and Utility Land Use: Transportation and utility land uses include lands devoted to streets, highways, off-street parking, railroad rights-of-way, and major electric power transmis-

sion rights-of-way. These land uses account for 862 acres, or 18.1 percent of the urban land uses and 5.5 percent of the total land uses in the study area. This figure represents an increase of 45 acres over the 1970 transportation and utility land use total of 817 acres. Transportation and utility land uses, which comprise the area in streets, off-street parking, railroads, and utilities, account for 211 acres, or 17.0 percent of the urban land uses and 11.3 percent of the total area in the incorporated area of the Village.

It should be noted that the CMStP&P railroad tracks and STH 16 are oriented in an east-west direction and are located in the northern and southern portions of the Village, respectively. Both of these major transport modes act as barriers to north-south vehicular and pedestrian traffic movement within the Village.

Governmental and Institutional Land Use: Governmental and institutional land uses account for 236 acres, or 5.0 percent of the urban land uses and 1.5 percent of the total land uses in the study area. This acreage figure represents an increase of about 76 acres over the 1970 governmental and institutional land use total of 160 acres. Within the incorporated Village these land uses occupy 49 acres, or 3.9 percent of the urban land uses and 2.6 percent of the total land uses. Governmental and institutional land uses are generally located within or in the vicinity of the Village, and include public and private schools, government buildings such as the village hall, fire station, and post office, and churches and cemeteries.

Rural Land Use: Rural land uses include surface water, woodlands, wetlands, unused lands and landfills, agriculture and other open lands, and farmsteads. For the purposes of this study, farm dwellings not associated with agricultural production were classified as residential land use (urban); were assigned a site area of 20,000 square feet; and were thus excluded from the agricultural land use category. In 1979 surface water in the study area totaled 2,097 acres, representing a decrease from 1970 of 6 acres, or less than 1 percent. Wetlands in the study area totaled about 997 acres in 1979, representing an increase over the 1970 total of 480 acres, or 93 percent. Woodlands in the study area totaled 1,667 acres in 1979, representing an increase over the 1970 total of 294 acres, or 32 percent. The substantial increases in the wetland and woodland acreages between 1970 and 1979 were largely due to the establish-

ment by the Commission of new wetland and woodland delineation criteria in 1979.

Unused lands and landfills account for 386 acres, or 3.6 percent of the rural land uses and 2.5 percent of the total land uses in the study area. Agriculture and other open lands, which includes all croplands, pasturelands, orchards, nurseries, and fowl and fur farms, account for 5,677 acres, or 52.3 percent of the rural land uses and 36.4 percent of the total land uses in the study area. This acreage figure represents a decrease of 1,734 acres, or 23 percent, from the 1970 figure of 7,411 acres.

Woodlands in the Village totaled 108 acres, or 16.9 percent of the rural land uses and 5.1 percent of the total land uses in the Village. Surface water and wetlands combined totaled 167 acres, or 26.0 percent of the rural land uses, and 8.9 percent of the total land uses in the incorporated area. Unused lands and landfills in the Village totaled 57 acres, or 8.9 percent of the rural lands and 2.9 percent of the total land uses in the incorporated area. Agriculture and other open lands in the Village totaled 309 acres, or 48.2 percent of the rural land uses and 16.3 percent of the total land uses in the incorporated area of Hartland.

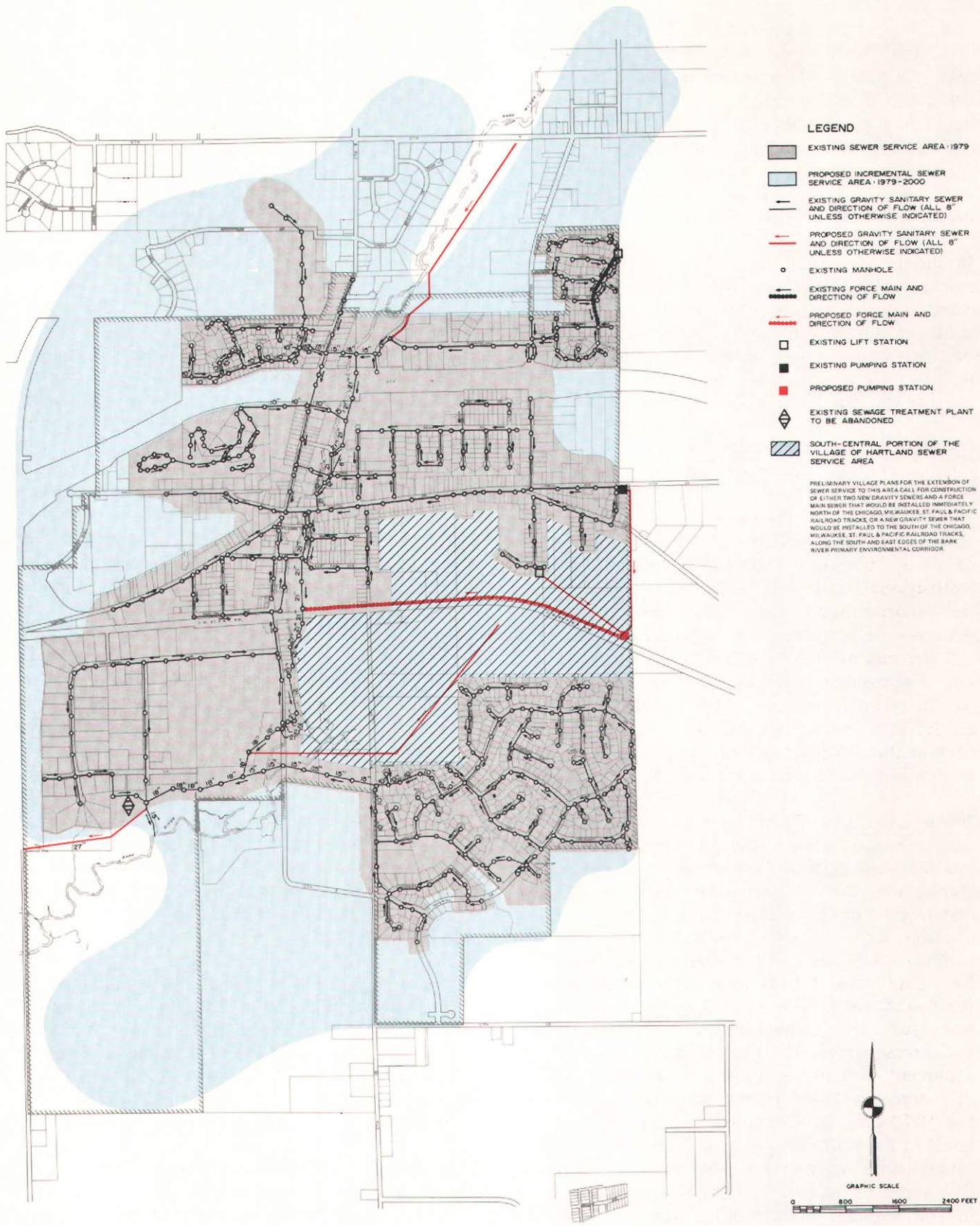
Community Utilities and Facilities

Sanitary Sewer Service: As indicated on Map 17, most of the urban development within the Village is served by a public sanitary sewer system. The existing sewer service area consists of approximately 1,140 acres, or 1.8 square miles, which represents approximately 7 percent of the study area and 60 percent of the village area. About 5,500 people reside in this sewer service area, or 67 percent of the total resident population of the study area. Sewage treatment is provided at a plant located on the Bark River at the southwestern edge of the Village, adjacent to the village industrial park.

The Village's existing sewage treatment plant provides a secondary level of treatment using the activated sludge process. The plant was constructed in 1933, and extensively modified in 1962. The existing treatment facilities are designed for an average daily flow of 0.35 million gallon per day (mgd) and a peak hydraulic capacity of 0.70 mgd.

In July of 1971, the Wisconsin Department of Natural Resources (DNR) issued orders to the Village that effluent was not properly disinfected, the biological oxygen demand (BOD) reduction

**EXISTING AND PLANNED SANITARY SEWER SERVICE FACILITIES
IN THE VILLAGE OF HARTLAND AND ENVIRONS: 1979-2000**



was less than desirable, the nutrients in the effluent were contributing to the eutrophication of Nagawicka Lake, and the discharge of inadequately treated wastes constituted a source of pollution and a potential health hazard.³

Following the orders of the DNR, additional plant improvements were made, including construction of a chlorine contact tank, a sludge holding lagoon, and phosphorus removal facilities. The DNR has since reported that the 85 percent phosphorus removal requirement is not always complied with. However, all further expansion of, or modification to, the existing village treatment plant was halted, pending completion of the Dela-Hart regional treatment facility, abandonment of the existing plant, and the connection of its service area to the Dela-Hart plant.

The most recent study of industrial and domestic sewage flows in the Village was conducted by Strand Associates, consulting engineers, in 1975. That study estimated the highest average monthly sewage flow at 0.496 mgd. Based on an estimated 1975 population of 4,096, the actual per capita flow contribution approximated 121 gallons per capita per day (gcd). This level was somewhat higher than the normal design value of 100 gcd, which includes a nominal allowance for infiltration and for normal commercial contributions.

As indicated on Map 17, plans prepared by the Village Engineer set forth two alternative proposals for the extension of trunk sanitary sewers into the undeveloped area between the Hartridge Subdivision and existing development along the south side of E. Capitol Drive. One proposal calls for the extension of a sewer on Rae Drive, northerly along the eastern shoreline of the Bark River to CTH K, to serve potential new development north of Sunnyslope Estates. The second sewer extension proposal is directed toward providing sewer service to the undeveloped area between the Hartridge Subdivision and E. Capitol Drive and consists of two alternatives. The first alternative of the second sewer extension proposal calls for the abandon-

ment of the existing lift stations on Tenny Avenue and Lisbon Avenue and the construction of a new pumping station immediately north of the point where the existing corporate limits and the CMStP&P railroad right-of-way intersect. Also, a new force main would be installed along the CMStP&P right-of-way connecting the new pumping station with the existing trunk sewer running parallel with the Bark River. The second alternative of the second sanitary sewer extension proposed consists of a new gravity sewer that would extend along the east edge of the Bark River primary environmental corridor lands located south of the CMStP&P railroad right-of-way.

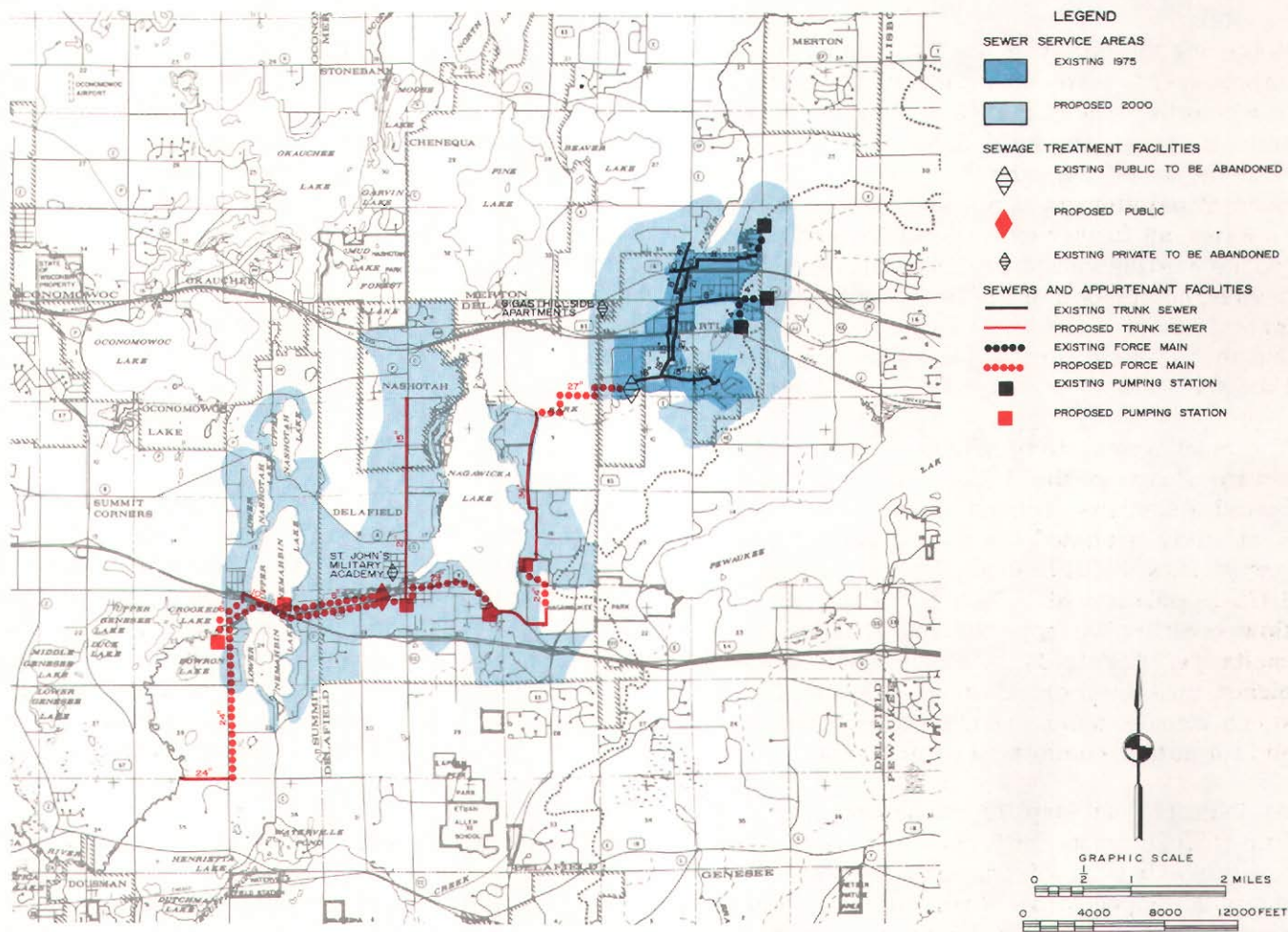
The proposed design year 2000 incremental sanitary sewer service area and related existing and proposed sewer facilities associated with the Hartland, Delafield-Nashotah, and Nashotah-Nemahbin Lakes sewer service areas as recommended in the adopted areawide water quality management plan for southeastern Wisconsin are shown on Map 18. The proposed sewer service area shown on Map 18 identifies lands where new urban development should be directed during the planning period. This map also shows a proposed system of trunk sewers, force mains, and pumping stations which is proposed to extend along the east and south sides of Nagawicka Lake, connecting the Village's sewer system to the Dela-Hart treatment facility located in the City of Delafield.

The Dela-Hart sewage treatment facility currently under construction will serve the Hartland, Delafield-Nashotah, and Nashotah-Nemahbin Lakes subareas of the Rock River watershed. The new plant, which is to be operated by the Delafield-Hartland Water Pollution Control Commission, is designed to provide secondary and tertiary waste treatment with advanced waste treatment for nitrification and auxiliary waste treatment for effluent aeration and disinfection. The facility will have an average hydraulic design capacity of 2.10 mgd in the year 1985, and 3.37 mgd in the year 2000. The Dela-Hart sewage treatment facility is intended to serve a resident population in the Hartland sewer service area (Hartland subarea) of 10,700 persons by the year 2000.

Water Supply: The Village operates its own municipal water supply system. As shown on Map 19, this system serves an area of 1,105 acres, or about 1.7 square miles, which represents about 7 percent of the study area and 58 percent of the village area. Four village wells currently produce about 2.93 million gallons per day, with the largest

³*Strand Associates, Inc., Environmental Assessment and Cost-Effective Analysis for the Delafield-Hartland Water Pollution Control Commission, Waukesha County, Wisconsin, July 1976.*

RECOMMENDED SEWERAGE SYSTEM PLAN FOR THE HARTLAND, DELAFIELD-NASHOTAH, AND NASHOTAH-NEMAHBIN LAKES SEWER SERVICE AREAS—MIDDLE ROCK RIVER SUBREGIONAL AREA: 2000



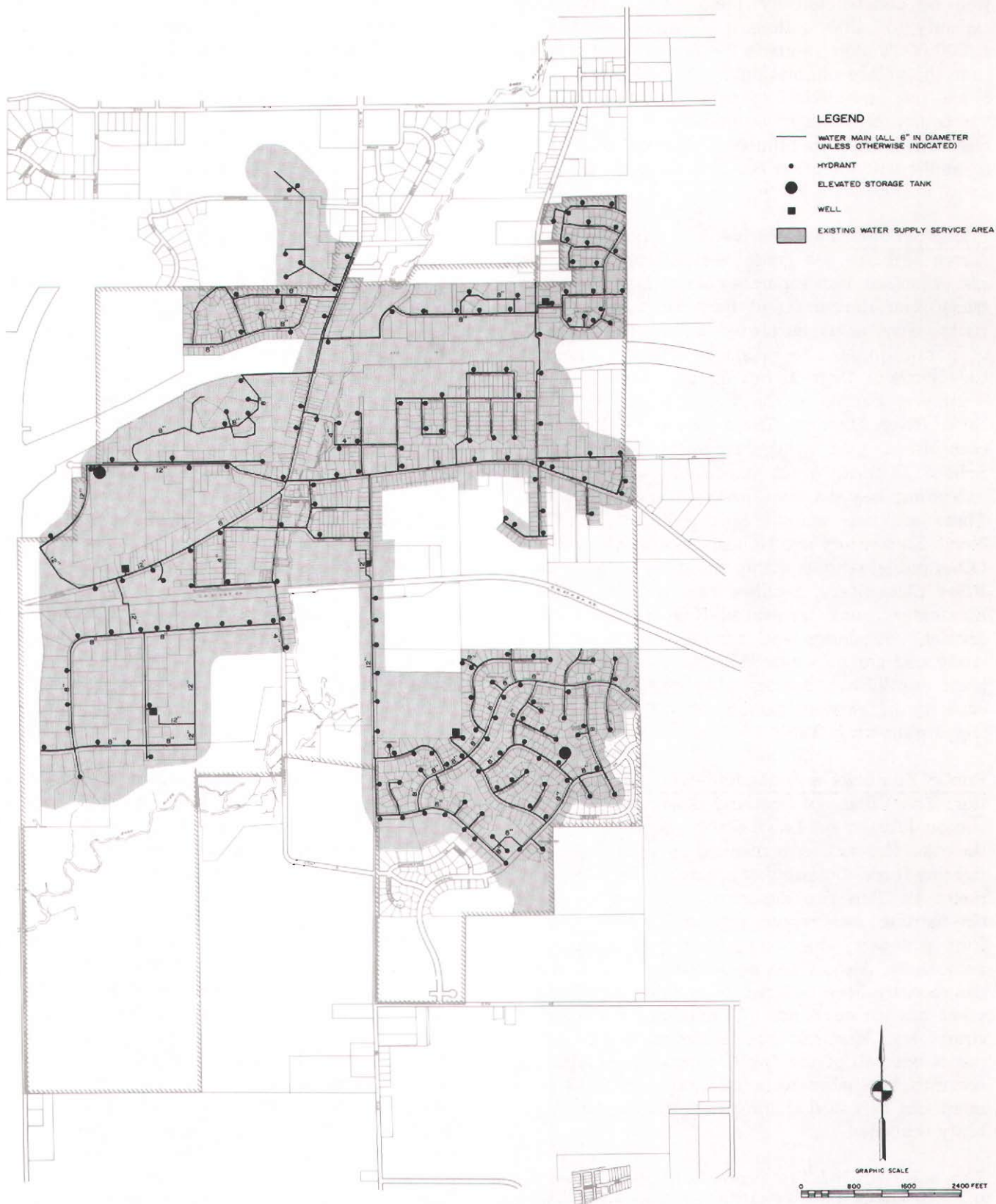
Source: SEWRPC.

well producing about 1.43 million gallons per day. The Village has two elevated storage tanks, each having a capacity of 250,000 gallons and clear water storage totaling 65,000 gallons. In 1978, Ruekert and Mielke, Inc., consulting engineers, conducted an analysis of the existing water system in the Village and recommended that certain improvements be made to the system. Their study concluded:

1. That based on the Village's 1978 population and the required fire flow of 3,000 gallons per minute for a three-hour duration, 300,000 gallons of additional water storage was required in 1978.
2. That an additional well capacity of 200 gallons per minute was required.
3. That assuming water demands per capita remain similar to present demands, a total of one million gallons of water storage in addition to the 565,000 gallons currently available will be required when the Village's population reaches 10,000.
4. That when the village population reaches 10,000, the maximum day demand will be approximately 2.5 to 3.0 million gallons per day, which would require 700 to 1,000 gallons per minute of additional well capacity.

Map 19

EXISTING WATER SUPPLY SERVICE IN THE VILLAGE OF HARTLAND: 1979



Source: SEWRPC.

The study recommended that a 500,000-gallon reservoir be constructed at well site number 3 by 1979. It was also recommended that an additional well be constructed by 1985 with a minimum capacity of 500 gallons per minute and that a 500,000-gallon reservoir be constructed by the time the village population reaches 10,000 people. Since the completion of this study, the Village has constructed the recommended 500,000-gallon reservoir at well site number 3. The Village intends to implement the other recommendations set forth above in the future.

Public Schools: Public elementary schools (Kindergarten through 8th grade) serving the study area are organized into separate elementary school districts. The Hartland and Bark River School Districts serve areas currently within the Village's corporate limits. The Village is primarily served by the Hartland District, but a small portion of the southwest corner of the Village is served by the Bark River District. These two school districts comprise a part of the Arrowhead Union High School District, which encompasses a large area extending beyond the limits of the study area. There are two schools in the Village, Hartland North Elementary and Hartland South Elementary. Other public schools within the study area are Bark River Elementary, Swallow Elementary, Lakeside Elementary, and Arrowhead High School. School district boundaries and school locations in the study area are shown on Map 20. Also, the approximate enrollment, average class size, and building capacity of existing public schools in the study area are shown in Table 16.

Public Buildings and Related Community Facilities: The Village of Hartland is served by one fire station located on Lawn Street just east of North Avenue. The station is manned by a volunteer fire-fighting force consisting of approximately 48 active members. This fire department has six pieces of fire-fighting and rescue equipment consisting of four pumpers, one equipment truck, and one ambulance. Also, a new aerial ladder pumper truck has recently been ordered. In addition, the Department has various kinds of emergency and support equipment. Hartland has reciprocal service agreements with all of the five departments of adjacent communities, whereby additional men and equipment can be called if additional fire-fighting capability is needed.

The adequacy of fire protection is evaluated by the Insurance Services Office of Wisconsin, which conducts analyses of fire department equipment,

alarm systems, water supply, prevention programs, building construction, and distance from a fire department station to determine a reasonable basis for fire insurance premiums. In rating a community, total deficiency points in the several areas of evaluation are used to assign a numerical rating of from one to 10, one representing the best protection and 10 representing an essentially unprotected community. Class nine usually indicates a community without effective public water supply and hydrant protection, while categories with lower numbers have such facilities. According to the Insurance Services Office of Wisconsin, the Village of Hartland has a rating of six.

The grade level street crossing over the CMStP&P Railroad at CTH HE is the principal means of access to the southern portions of the Village. The Village's existing fire station is located north of the railroad tracks on Lawn Street, in the older, central portion of the Village. However, in recent years, a substantial amount of relatively new urban development has occurred in the area south of the railroad tracks. Therefore, the grade level crossing at CTH HE imposes a potential fire protection hazard because if a train blocked the crossing during a fire call to a location south of the tracks, response to that call would be substantially delayed.

The Village Police Department is located on the lower level of the Village Hall. The Department has personnel consisting of nine full-time officers, one full-time dispatcher, one part-time clerk, and three crossing guards. The Department currently has two radio-equipped patrol cars.

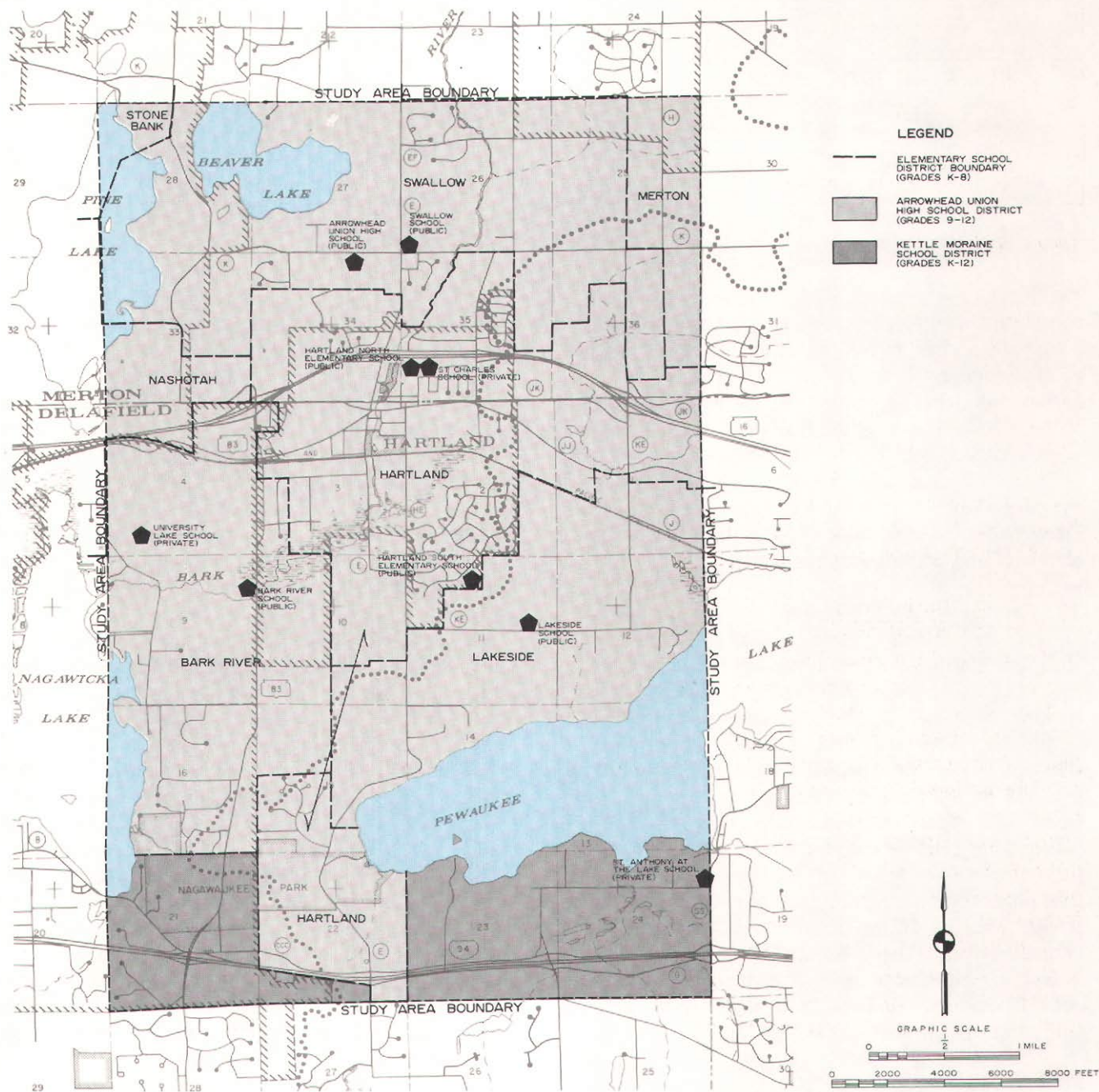
The Village Library is also located on the lower level of the Village Hall. The library staff consists of one full-time and two part-time employees, and is open a total of about 26 hours per week. The services of the library are limited to residents living within the corporate limits of the Village.

The existing Village Hall is a frame structure having significant structural and mechanical deficiencies that are deemed to be uneconomical to correct. Furthermore, the building is not large enough for the library, police department, and general administrative offices currently contained therein. Consequently, functions that would be ideally located in the Village Hall, such as the Village Engineer and the Department of Public Works, have been forced to other locations in the Village.

Village officials have recognized the inadequacies of the existing Village Hall and have recently acted

Map 20

EXISTING SCHOOL DISTRICT BOUNDARIES AND SCHOOLS
IN THE VILLAGE OF HARTLAND STUDY AREA: 1979



Source: SEWRPC.

Table 16

EXISTING PUBLIC SCHOOLS IN THE VILLAGE OF HARTLAND STUDY AREA: 1979

| School | 1978-1979 Enrollment | Average Class Size | Student Capacity |
|---|----------------------|--------------------|------------------|
| Hartland Elementary North (K-8) | 500 | 22 | 600 |
| Hartland Elementary South (K-5) | 350 | 22 | 400 |
| Swallow (K-8) | 300 | 20 | 400 |
| Lakeside (K-8) | 115 | 14 | 210 |
| Bark River (K-8) | 136 | 15 | 150 |
| Arrowhead High School (9-12) | 1,600 | 27-28 | 1,600 |

Source: SEWRPC.

to establish a new, centralized Village Hall facility. The Village has purchased the old Shogen Chevrolet property located on Cottonwood Avenue, across the street from the post office, for the new Village Hall. The existing building on this property is currently being expanded and renovated for the purpose of housing the Village's administrative offices, Police Department, Library, Engineering Department, Department of Public Works, and other related offices and services.

The Central Business District

During the initial stages of the conduct of this study, the Village Plan Commission requested that the land use plan provide general guidelines concerning how the Village's central business district might be improved during the planning period. While it is not the purpose of the land use plan to provide detailed subarea studies and recommendations—i.e., structure condition analyses, commercial market analyses, and site-specific improvement project designs—it was determined that the land use plan could set forth an overall development framework for future improvement efforts in the central business district. The plan provides such a framework based upon the analysis of existing central business district land use, traffic circulation, and on- and off-street parking.

Central Business District Land Use: Map 21 depicts land use development in the central business district and environs. The existing central business district area as delineated on the map consists of a total of about 17 acres, approximately 12 net acres of which are developed or can be developed for commercial use. Existing commercial floor space consists of approximately 110,000 square feet. Land use in the central business district consists primarily of commercial development,

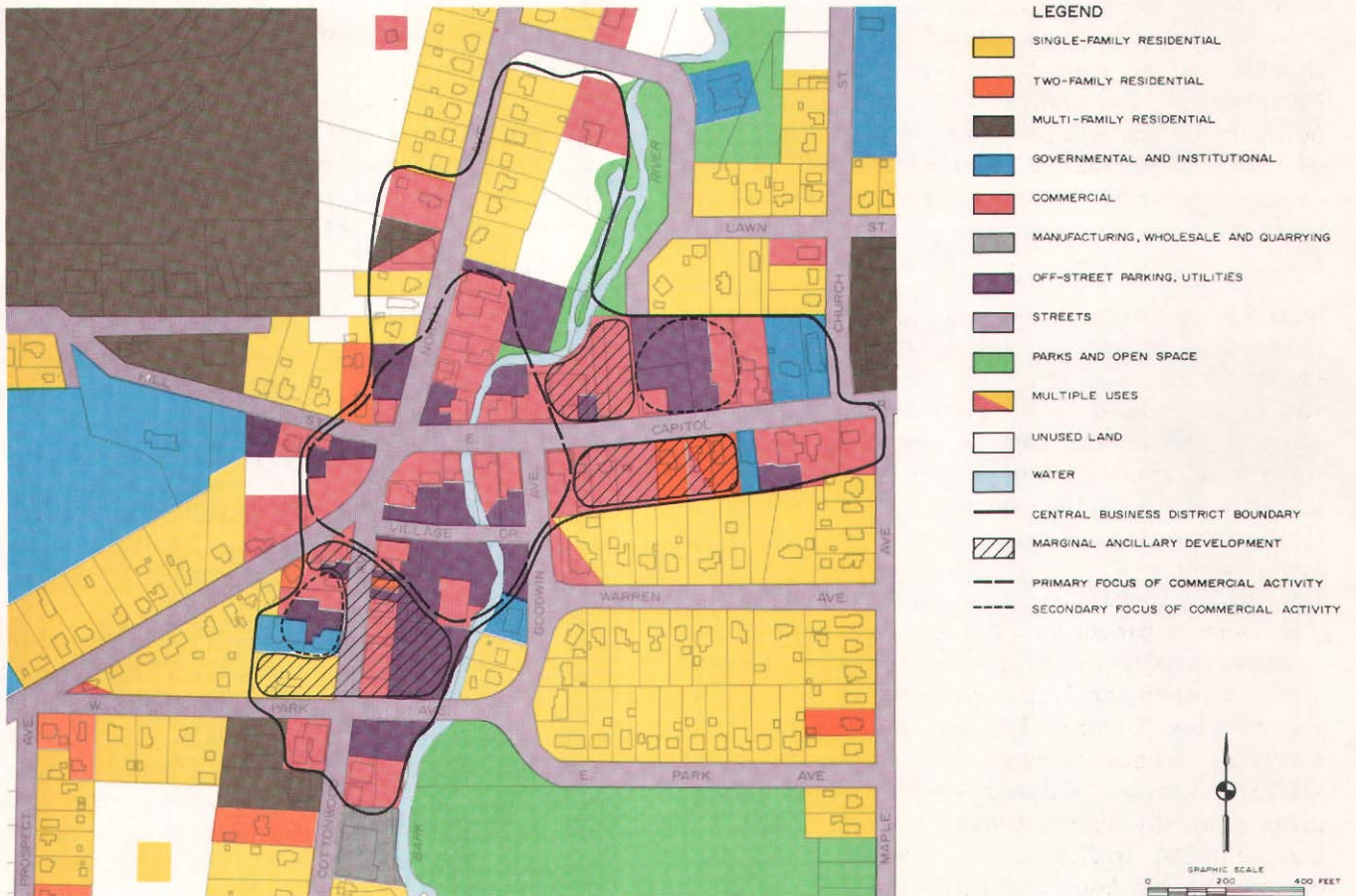
together with some governmental, institutional, and residential development. Commercial development in the central business district consists of a mixture of three types of retail establishments: stores providing convenience shopping goods and services such as food stores, hardware stores, barber and beauty shops, and professional offices; stores providing comparison shopping goods such as family apparel stores and general merchandise stores; and automotive-oriented stores including new and used auto sales, and automotive repair and service. As is the case with most older central business districts, Hartland's central business district is fraught with the complexities of fragmented property ownerships, and numerous conflicts arising from adjacent incompatible land uses.

The central focus of commercial activity in the central business district is the intersection of E. Capitol Drive, Cottonwood Avenue, Hill Street, and North Avenue. From this intersection, commercial land uses extend to the north along the east side of North Avenue for approximately 450 feet; to the east along both sides of Capitol Drive between North Avenue and Church Street; and to the south along both sides of Cottonwood Avenue between W. Park Avenue and W. Capitol Drive. Most of these commercial uses are established in two-story structures, built at or near front property lines. Also, most of these structures contain second-story apartments over first-floor commercial uses.

Within the central business district existing land use and development exhibit varying levels of commercial vitality, structural condition, and extent of utilization. The mapping of these characteristics provides a conceptual view of those areas in the downtown containing development of

Map 21

EXISTING LAND USE IN THE VILLAGE OF HARTLAND CENTRAL BUSINESS DISTRICT AND ENVIRONS: 1979



Source: SEWRPC.

relatively high viability and importance as well as areas of lesser viability and importance to the Village. This information can then be used as a basis for determining areas where existing development might be protected and enhanced and areas where some form of redevelopment might be considered.

As shown on Map 21, land use development in the central business district can be classified into three general categories: development that is part of the primary focus of commercial activity; development that is part of a secondary focus of commercial activity; and marginal ancillary development. The primary focus of commercial activity consists of compact and continuous development and structurally sound buildings on intensively developed sites. Such development represents the

“heart” of the central business district and tends to generate the highest levels of pedestrian and vehicular traffic. A secondary focus of commercial activity is an area of lesser significance than the primary focus of commercial activity, basically owing to its smaller size, but still containing development of comparable quality and importance. Marginal ancillary development is located at the edges of the central business district and is often marked by structural obsolescence and underutilization of commercial land.

As shown on Map 21, the primary focus of commercial activity encompasses properties directly associated with the E. Capitol Drive, Cottonwood Avenue, Hill Street, and North Avenue intersection and properties located adjacent to Village Drive. This core of the central business district contains

the highest concentration of continuous and economically viable commercial development. The area generally consists of old "store front" buildings, constructed at front property lines. The old village character reflected in this compact arrangement of mature, two-story commercial buildings establishes this area as the identifiable center of the Village. Furthermore, the architectural style and scale of buildings in this area presents a very positive image of the Village; namely, that of a small, orderly urban community. The area provides a unique type of commercial shopping environment that modern shopping centers cannot duplicate.

Map 21 also shows two focal points of secondary commercial activity. One such area consists of the Piggly Wiggly food store and the Hopkins Savings and Loan, located on the north side of E. Capitol Drive at the eastern edge of the downtown. The other area consists of the laundromat, village hall, and post office facilities located on the west side of Cottonwood Avenue. Map 21 shows marginal ancillary development in three locations: on the north side of E. Capitol Drive between the Hornburg Ford service garage and the Hopkins Savings and Loan property; on the south side of E. Capitol Drive between the Hornburg new car sales building and the Masonic Temple; and flanking Cottonwood Avenue between W. Capitol Drive and W. Park Avenue. Existing development in these areas generally exhibits low levels of pedestrian and vehicular traffic, structural obsolescence, and commercial land underutilization. These areas could be considered as potential sites for future commercial redevelopment.

Central Business District Traffic Circulation: Vehicular movements to and from the central business district are primarily accomplished via four, two-lane arterial streets; E. Capitol Drive (CTH JJ), North Avenue (CTH E), Maple Avenue (CTH HE), and W. Capitol Drive (CTH JK). The first three of these four roadways provide sub-regional road system continuity to areas beyond the corporate limits of the Village to the east, north, and south, respectively. All four arterial streets terminate in the central business district, which encourages through traffic, particularly north-south movements, to be channeled through the center of the Village. The combination of through traffic, local shopping-oriented traffic, and vehicular movements associated with on-street parallel parking generates some traffic congestion during peak travel periods.

The center of the central business district is focused on the "six point" intersection formed

by Hill Street, North Avenue, E. Capitol Drive, Village Drive, Cottonwood Avenue, and W. Capitol Drive. This "six-point" intersection, as shown on Map 21, represents a hazard to motorists and pedestrians in that there is no organized pattern of vehicular movement through the intersection.

Also, the acute angles at which Hill Avenue, W. Capitol Drive, and Cottonwood Avenue intersect create visibility problems for motorists prior to entering the intersection. It should further be noted that Hill Street, Cottonwood Avenue, and Village Drive merely serve local traffic circulation functions and are not a part of the arterial street system. Moreover, Village Drive, which is one block in length, has the limited function of providing access to the Super-Valu store and a cluster of individual off-street parking areas located to the rear of commercial buildings in the area bounded by E. Capitol Drive, Cottonwood Avenue, Goodwin Avenue, and E. Park Avenue. Consequently, Village Drive functions more as a driveway than as a street.

The traffic circulation system in the central business district also encourages local traffic having destinations in the area to move through local residential areas. E. Park Avenue, Goodwin Avenue, and Oak Street permit traffic movement to and from off-street parking areas at the edges of the downtown through residential areas. While this situation may not be of great concern currently, owing to the small amounts of commercial-oriented traffic using these streets, if forecasted population levels for the Village are achieved during the planning period, additional traffic will occur on these streets, which in turn will affect the character and livability of residential areas adjacent to the central business district.

Central Business District Parking: The purple tones on Map 21 depict off-street parking areas in the downtown area. In 1979 there were about 425 off-street parking spaces in the central business district together with about 100 on-street parking spaces. Map 21 illustrates that the parking areas are generally scattered throughout the downtown. Also, many off-street parking areas are small—providing 10 spaces or less; are hidden from view from the street; and are posted for use by customers of a specific store or a group of stores. While this type of off-street parking arrangement may, in some instances, satisfy the needs of certain individual businesses, in general it reduces the amount of convenient and accessible parking readily available to the public.

There are two major concentrations of off-street parking in the downtown: the area bounded by E. Capitol Drive, Cottonwood Avenue, E. Park Avenue, and Goodwin Avenue; and the parking areas for Hopkins Savings and Loan and the Piggly Wiggly food store. These off-street parking areas account for approximately 160 spaces and 76 spaces, respectively. Furthermore, it should be noted that approximately 175 off-street parking spaces are located outside the primary focus of commercial activity.

Existing Land Use Regulations

All land development and building activity in the Village of Hartland is regulated by the village zoning, building, and land division ordinances. The current village zoning ordinance became effective on January 1, 1973. The zoning district regulations in this ordinance consist of three residential districts, two business districts, two industrial districts, one agricultural district, one conservancy district, and one floodplain district. The location and configuration of these districts are illustrated on Map 22. Table 17 presents a brief summary of the regulations contained in each district and the acreage assigned to each district on the Village's zoning map.

While the overall structure and organization of the Village's existing zoning ordinance is sound, the ordinance does have several deficiencies that should be corrected. Only the floodplain district and the planned development regulations in the ordinance are prefaced by an intent clause. The intent of each zoning district should be set forth in the ordinance so that the plan commission and the village board understand the purpose of each zoning district in relation to the Village's physical development objectives. The zoning ordinance also permits the mixing of certain basic land use types within zoning districts. For example, two-family and multiple-family residential development are both permitted as conditional uses in the R-3 Single-Family Residential District. Such a provision encourages mixing of single-family and apartment development and also encourages conversion of larger, older homes to multiple-dwelling-unit structures. The ordinance also permits, by conditional use permit, public and semi-public uses in any residential district, and drive-in theaters and restaurants in any agricultural district. Orderly growth and coordinated development of different land use types could be better accomplished by establishing individual zoning districts and district regulations for single-family, two-family, and multiple-family housing, public and semi-public uses, and drive-in

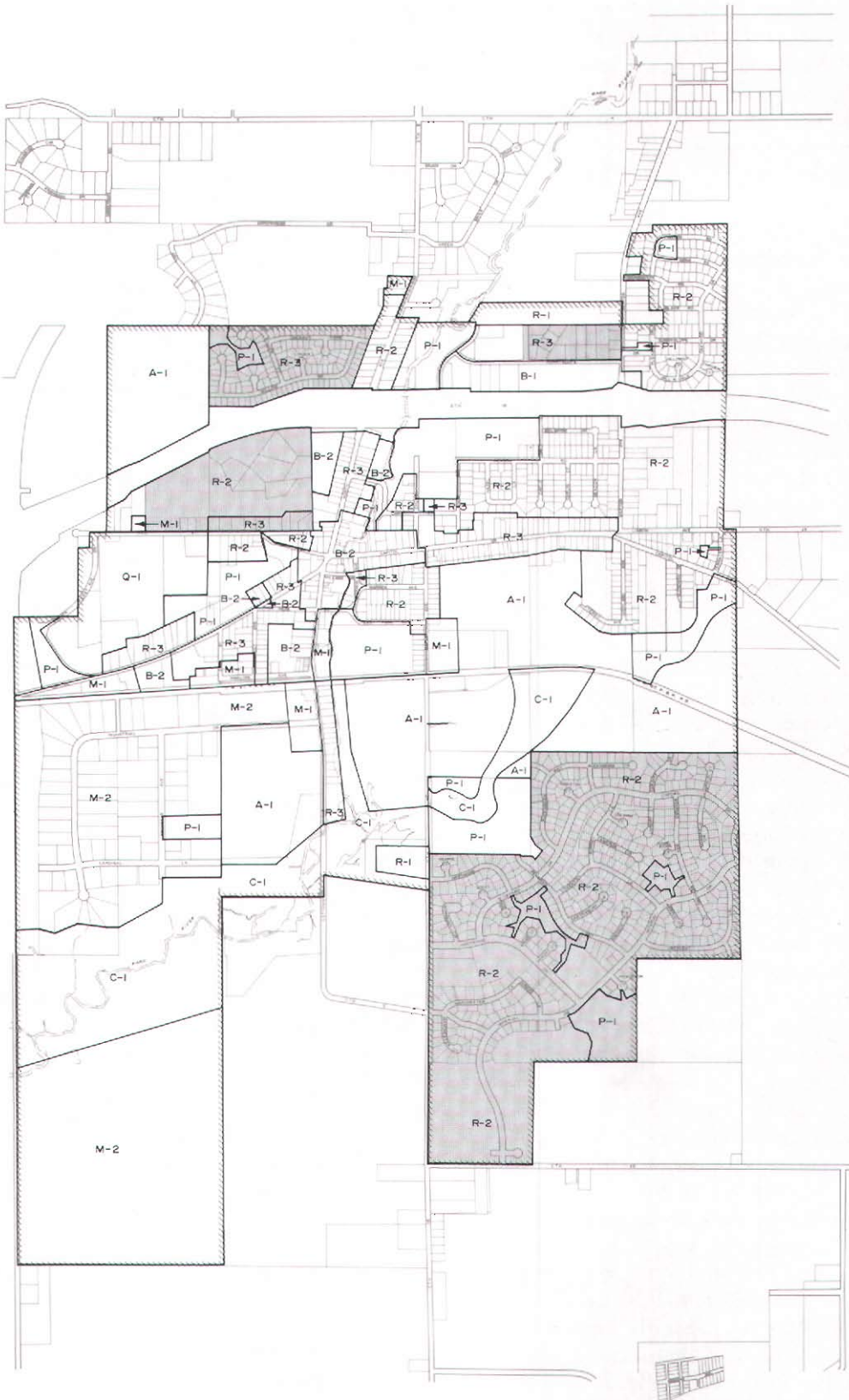
theaters and restaurants, or by including such uses as permitted uses in existing zoning districts which have a similar development intent. The Village's control over such development would be determined by the extent of these zoning districts on the Village's zoning map and by the specific regulations and standards within each zoning district.


In the B-1 Business District the only principal use permitted is an integrated shopping center. All uses in the B-2 District are permitted by conditional use in the B-1 District. The B-1 District should have a development intent that is distinguishable from the B-2 District, and only certain permitted uses should be provided for in the B-1 District. Also, the existing zoning ordinance has one agricultural zoning district which has a minimum lot area requirement of five acres. An additional agricultural zoning district with a 35-acre minimum lot area requirement is needed to effectively prevent large tracts of agricultural land from being prematurely split into smaller parcels and developed.

Existing zoning districts on lands in civil divisions adjacent to the Village of Hartland and within the study area are shown on Map 23. Table 17 also presents a brief summary of the regulations contained in each district and the acreage assigned to each district on the zoning maps of civil divisions adjacent to the Village. This map illustrates two areas of concern regarding the zoning of certain lands adjacent to the Village. First, the City of Delafield has zoned approximately 65 acres in the vicinity of the intersection of STH 16 and STH 83, in the northeast corner of the City, to B-1-A and B-4 Business Districts. The large size and prime location of this business-zoned acreage suggests that pressure for the development of major commercial facilities on these lands is likely to develop during the planning period. Secondly, large acreages of A-1 Agricultural District-zoned lands are located south and east of the Village in the Town of Delafield. This zoning district permits one-family dwellings on one and one-half-acre lots. Urban residential development on lots of this size tends to be more expensive to serve with public sanitary sewer and water service and other essential community services than, for example, urban residential development on 12,000- or 15,000-square-foot lots. It should be further noted that if one and one-half-acre lot residential development occurs adjacent to or in proximity to the village corporate limits, the Village could ultimately be responsible for providing community utilities and services to such areas should private sewage disposal systems

Map 22

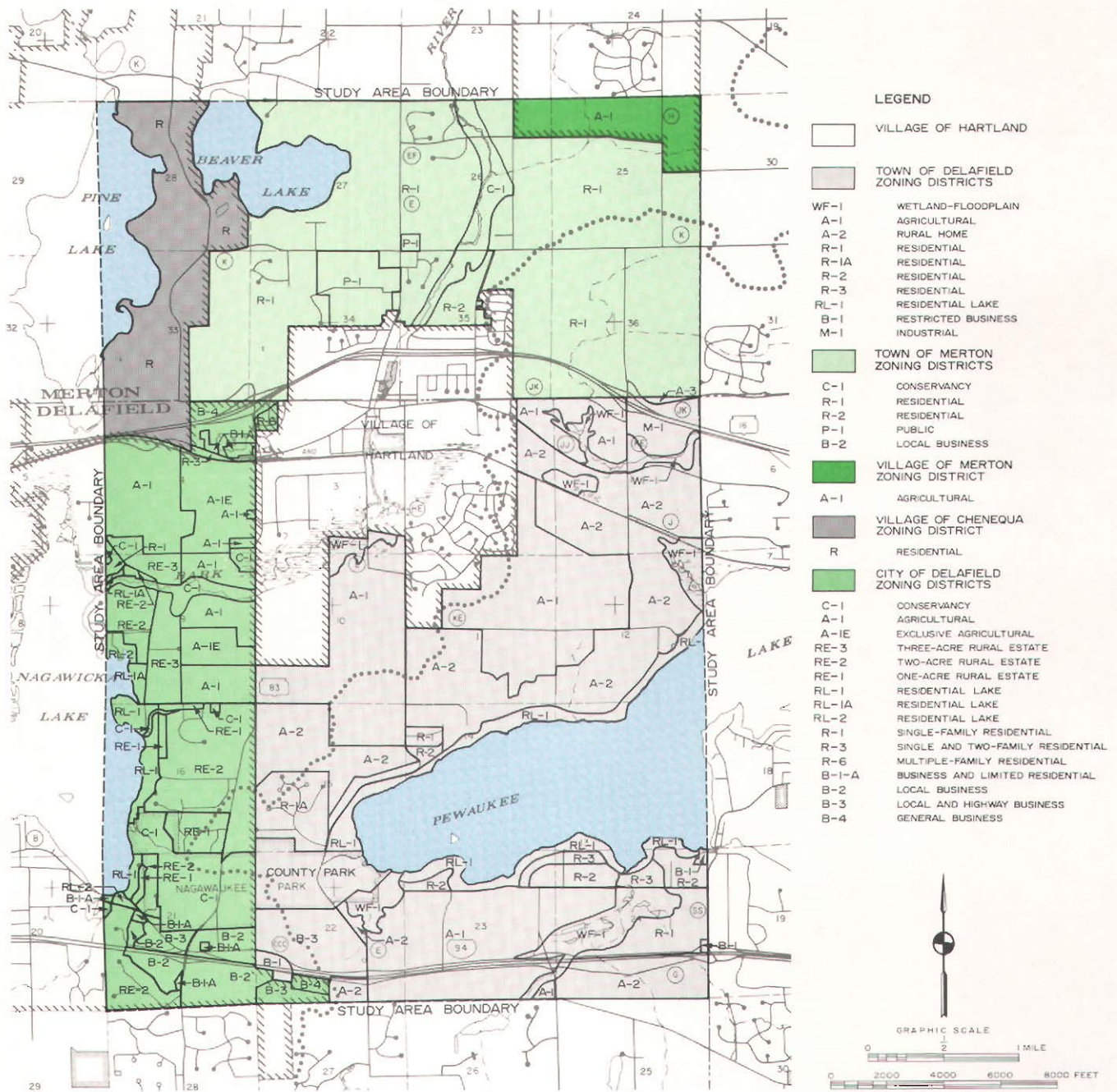
EXISTING ZONING IN THE VILLAGE OF HARTLAND: 1979



- LEGEND**
- R-1 RESIDENTIAL
 - R-2 RESIDENTIAL
 - R-3 RESIDENTIAL
 - B-1 BUSINESS
 - B-2 BUSINESS
 - M-1 INDUSTRIAL
 - M-2 INDUSTRIAL
 - A-1 AGRICULTURAL
 - C-1 CONSERVANCY
 - Q-1 QUARRYING
 - P-1 PUBLIC AND SEMI-PUBLIC
 -  PLANNED UNIT DEVELOPMENT

Map 23

EXISTING ZONING IN THE CIVIL DIVISIONS ADJACENT TO THE VILLAGE OF HARTLAND AND WITHIN THE STUDY AREA: 1979



Source: SEWRPC.

Table 17

SUMMARY OF EXISTING ZONING DISTRICTS IN THE VILLAGE OF HARTLAND STUDY AREA: 1979

| Zoning District | Permitted Uses | Conditional Uses | Minimum Lot Size | | Acres | Percent of Civil Division | Percent of Study Area |
|---|---|--|---------------------|---------------------|-------|---------------------------|-----------------------|
| | | | Area | Width | | | |
| VILLAGE OF HARTLAND ZONING ORDINANCE | | | | | | | |
| R-1 Residential District | One-family dwellings | Government and cultural structures, passenger terminals, public and parochial schools | 15,000 square feet | 100 feet | 6 | 0.3 | 0.1 |
| R-2 Residential | One-family dwellings | Government and cultural structures, passenger terminals, public and parochial schools | 9,000 square feet | 70 feet | 627 | 33.4 | 4.7 |
| R-3 Residential District | One-family dwellings | Government and cultural structures, passenger terminals, public and parochial schools, two-family dwellings, multi-family dwellings, clubs, fraternities, lodges, rest homes, nursing homes | 8,000 square feet | 70 feet | 168 | 9.0 | 1.2 |
| B-1 Business District | None | Permitted uses in B-2 business district | 2 acres | 400 feet | 32 | 1.7 | 0.2 |
| B-2 Business District | Retail stores, religious institutions, private clubs and schools, financial institutions, existing dwelling in compliance with the provisions of the R-2 district | Public and semipublic uses, drive-in facilities, and recreational uses | No minimum required | No minimum required | 44 | 2.3 | 0.3 |
| M-1 Industrial District | Commercial bakeries, distributors, wholesalers, light manufacturing, automotive repairs, etc. | Mineral extraction | No minimum required | No minimum required | 22 | 1.2 | 0.2 |
| M-2 Industrial District | All M-1 permitted uses, freight yards, fuel storage, except inflammable liquids, breweries, crematories, and warehouses | Mineral extraction | No minimum required | No minimum required | 307 | 16.4 | 2.3 |
| A-1 Agricultural District | Truck farming, grazing, dairying, livestock raising, etc. | Drive-in facilities, animal hospitals and kennels, dumps, fur farms, pigs, pea vineries, creameries, condenseries, filling, testing and experimental laboratories | 5 acres | 200 feet | 316 | 16.9 | 2.3 |
| C-1 Conservancy District | River bank and lake shore protection, soil rebuilding, reforestation, hunting, and fishing | Grazing, wild crop harvesting, forestry, dams, power and communication transmission lines, accessory structures | No minimum required | No minimum required | 186 | 9.9 | 1.4 |
| Floodplain District | River bank and lakeshore protection, soil rebuilding, reforestation, fishing, public hatcheries, wildfire preserves and water control | Any permitted or conditional use in the underlying zoning district | No minimum required | No minimum required | -- | -- | -- |
| Quarrying District | Mineral extraction operations in existence prior to January 1, 1975 | Extensions of legally existing mineral extraction operations or the creation of new extraction operations, public and semipublic uses and recreational uses | No minimum required | No minimum required | 59 | 3.1 | 0.4 |
| P-1 Public and Semipublic Park District | Public parks, river bank protection, and reforestation | Fire and police stations, community centers, offices, libraries, public emergency shelters, passenger terminals, public and private schools, colleges, churches, hospitals, sanitariums, cemeteries and mausoleums | 2 acres | -- | 108 | 5.8 | 0.8 |
| Subtotal | -- | -- | -- | -- | 1,875 | 100.0 | 13.9 |
| TOWN OF DELAFIELD ZONING ORDINANCE | | | | | | | |
| WF-1 Wetland Floodplain District | Grazing, harvesting of wild crops, hunting and fishing, sustained yield forestry, public utilities and accessory buildings | Animal hospitals, kennels, motels and hotels, churches, private and outdoor recreational facilities, public and semipublic uses, residential planned unit development, riding academies and cemeteries | No minimum required | No minimum required | 450 | 8.8 | 3.3 |
| A-1 Agricultural District | One-family dwellings, public parks and recreation areas, general farming, poultry and livestock, and recreation areas, general farming, poultry and livestock, horticulture, etc. | Airports and landing fields, animal hospitals, kennels, motels and hotels, churches, private outdoor recreational facilities, fur farms, pea vineries, creameries and condenseries, public and semipublic uses, outdoor theatre, mobile home parks, residential planned unit development, riding academies, and cemeteries | 1.5 acres | 200 feet | 2,119 | 41.7 | 15.7 |
| A-2 Rural Home District | Any use permitted in A-1 Agricultural District and general farming on not less than 10 acres | Same as A-1 Agricultural District, except that animal hospitals and kennels are not conditional uses | 3 acres | 200 feet | 1,446 | 28.5 | 10.7 |
| A-3 Suburban Estate District | Any use permitted in the A-1 Agricultural District | Same as A-1 Agricultural District, except that animal hospitals and kennels are not conditional uses | 2 acres | 200 feet | -- | -- | -- |
| R-1 Residential District | Any use permitted in the Rural Home District except the keeping of domestic livestock | Cemeteries, churches, motels and hotels, private clubs and outdoor recreational facilities, riding academies, riding horses, outdoor theatre, public and semipublic uses, residential planned unit development | 1.5 acres | 200 feet | 27 | 0.5 | 0.2 |
| R-1(A) Residential District | Any use permitted in the R-1 Residential District | Same as R-1 Residential District | 1 acre | 150 feet | 213 | 4.2 | 1.6 |
| R-2 Residential District | Any use permitted in the R-1 Residential District | Same as R-1 Residential District | 30,000 feet | 120 feet | 168 | 3.3 | 1.2 |
| R-3 Residential District | Any use permitted in the R-1 Residential District | Same as R-1 Residential District | 20,000 square feet | 120 feet | 47 | 0.9 | 0.3 |
| RL-1 Residential Lake District | Any use permitted in the R-1 Residential District | Same as R-1 Residential District | 20,000 square feet | 100 feet | 8 | 0.2 | 0.1 |
| B-1 Restricted Business District | Any use permitted in the R-3 Residential District, retail stores, offices, customer service establishments, off-street parking, garages, signs | Automobile service stations, cemeteries, drive-in establishments | 20,000 square | 120 feet | 8 | 0.2 | 0.1 |

Table 17 (continued)

| Zoning District | Permitted Uses | Conditional Uses | Minimum Lot Size | | Acres | Percent of Civil Division | Percent of Study Area |
|--|--|---|---------------------|---------------------|-------|---------------------------|-----------------------|
| | | | Area | Width | | | |
| TOWN OF DELAFIELD ZONING ORDINANCE (continued) | | | | | | | |
| B-2 Shopping Center District | Any use permitted in the B-1 District, dental and medical clinics, commercial studios and galleries | Same as B-1 Restricted Business District | 20,000 square feet | 120 feet | -- | -- | -- |
| Q-7 Quarrying District | Any use permitted in the A-1 Agricultural District, quarrying, manufacture of concrete, building blocks, production of ready-mixed concrete | Animal hospitals and kennels, cemeteries, churches, motels and hotels, private clubs, riding academies, outdoor theatre, public and semipublic uses, quarrying | 10 acres | 200 feet | -- | -- | -- |
| M-1 Industrial Park District | Any use in A-1 Agricultural District except that residential permitted only when accessory to another permitted principal use, industrial and commercial operations other than retail | Automobile service stations, animal hospitals, kennels, cemeteries, drive-ins, fur farms, pea vineries, creameries, condenseries, refuse disposal site, churches, motels and hotels, private clubs, riding, public and semipublic uses | 5 acres | 330 feet | 596 | 11.7 | 4.4 |
| Subtotal | -- | -- | -- | -- | 5,082 | 100.0 | 37.6 |
| TOWN OF MERTON ZONING ORDINANCE | | | | | | | |
| C-1 Conservancy District | Grazing, harvesting of wild crops, hunting and fishing, sustained yield forestry, dams and hydro-electric power stations, telephone and telegraph and power transmission lines | None | No minimum required | No minimum required | 180 | 5.5 | 1.3 |
| A-1 Agricultural District | Any use permitted in the C-1 Conservancy District, one-family dwellings, public parks and recreation areas, farming, roadside stands, horticulture, home occupations, professional offices | Airports, landing fields, antique shops, studios, automobile service stations, animal hospitals, kennels, cemeteries, churches, commercial fish and bait ponds, drive-in establishments, laboratories for testing and experimental purposes | 3 acres | 200 feet | -- | -- | -- |
| A-2 Rural Home District | All uses permitted in the A-1 Agricultural District, one-family dwellings, keeping of poultry | Animal hospitals, kennels, cemeteries, churches, commercial fish and bait ponds, residential planning unit development, public and semipublic uses, private clubs | 3 acres | 200 feet | -- | -- | -- |
| A-3 Suburban Estate District | Any use permitted in the A-2 Rural Home District | Same as A-2 Rural Home District | 2 acres | 175 feet | -- | -- | -- |
| R-1 Residential District | Any use permitted in the A-2 Rural Home District | Same as A-2 Rural Home District | 1 acre | 150 feet | 2,837 | 87.8 | 20.9 |
| R-2 Residential District | Any use permitted in the R-1 Residential District | Same as A-2 Rural Home District | 30,000 square feet | 120 feet | 52 | 1.6 | 0.4 |
| R-3 Residential District | Any use permitted in the R-2 Residential District, two-family dwellings | Same as A-2 Rural Home District | 20,000 square feet | 120 feet | -- | -- | -- |
| P-1 Public District | None | Private clubs, public and semipublic uses | No minimum required | No minimum required | 161 | 5.0 | 1.2 |
| B-1 Restricted Business District | Small retail shops, boarding houses, offices | Same as A-2 Rural Home District | 20,000 square feet | 120 feet | -- | -- | -- |
| B-2 Local Business District | Any use permitted in the B-1 Restricted Business District | Same as A-2 Rural Home District | 20,000 square feet | 120 feet | -- | -- | -- |
| B-3 General Business District | Wholesalers, distributors, theaters, dance halls, dry cleaning, auto sales, etc. | Antique shops, studios, auto service stations, animal hospitals, cemeteries, churches, commercial fish or bait ponds, drive-in establishments, feed lots, laboratories, private clubs, public and semipublic uses, disposal sites | 20,000 square feet | 120 feet | -- | -- | -- |
| Q-1 Quarrying District | Any use permitted in the A-1 Agricultural District and Residential Use Accessory to permitted uses, quarrying | Animal hospitals, cemeteries, commercial fish or bait shops, public and semipublic uses, disposal sites | 1 acre | 150 feet | -- | -- | -- |
| M-1 Limited Industrial District | Any use permitted in a B-3 General Business or A-1 Agricultural District, light industry | Same as B-3 General Business District | 1 acre | 150 feet | 1 | 0.1 | 0.1 |
| M-2 General Industrial District | Any use permitted in the M-1 Limited Industrial District, quarrying | Same as B-3 General Business District | 1 acre | 150 feet | -- | -- | -- |
| Subtotal | -- | -- | -- | -- | 3,231 | 100.0 | 23.9 |
| VILLAGE OF MERTON ZONING ORDINANCE | | | | | | | |
| R-1 Residential District | One-family dwellings | Public and semipublic uses | 40,000 square feet | 150 feet | 261 | 100.0 | 1.9 |
| R-2 Residential District | One-family dwellings | Public and semipublic uses and multiple-family dwellings | 20,000 square feet | 120 feet | -- | -- | -- |
| B-1 Business District | Retail sales, offices, financial institutions, government offices, hotels, schools, clubs, etc. | Public and semipublic uses highway oriented business uses | 20,000 square feet | 100 feet | -- | -- | -- |
| B-2 Planned Business District | None | All B-1 Business District uses, public and semipublic uses, highway oriented uses, industrial and agricultural uses | 2 acres | 200 feet | -- | -- | -- |
| M-1 Industrial District | Commercial bakeries, distributors, wholesalers, packaging, manufacturing of nonalcoholic beverages, green houses, etc. | Public and semipublic uses industrial and agricultural uses | 1 acre | 150 feet | -- | -- | -- |

Table 17 (continued)

| Zoning District | Permitted Uses | Conditional Uses | Minimum Lot Size | | Acres | Percent of Civil Division | Percent of Study Area |
|---|--|---|--|---------------------|-------|---------------------------|-----------------------|
| | | | Area | Width | | | |
| VILLAGE OF MERTON ZONING ORDINANCE (continued) | | | | | | | |
| M-2 Industrial District | All M-1 Industrial District uses, freight yards, fuel storage, except flammable liquids, breweries, etc. | Public and semipublic uses, industrial and agricultural uses | 1 acre | 150 feet | -- | -- | -- |
| A-1 Agricultural District | Any permitted or conditional use in the C-1 District, farming, nurseries, greenhouses, etc. | Same as M-2 Industrial District | 5 acres | 200 feet | -- | -- | -- |
| C-1 Conservancy District | River bank and lakeshore protection, soil rebuilding, reforestation, hunting, fishing, etc. | Grazing, wild crop harvesting, forestry, dams, transmission lines, accessory structures, truck farming, orchards, drainage, and cultivation | No minimum required | No minimum required | -- | -- | -- |
| P-1 Public and Semipublic District | Parks, arboreturns, playgrounds, fishing, wading, swimming, etc. | All structures, public and semipublic uses | No minimum required | No minimum required | -- | -- | -- |
| Subtotal | -- | -- | -- | -- | 261 | 100.0 | 1.9 |
| VILLAGE OF CHENEQUA ZONING ORDINANCE | | | | | | | |
| Residential District | Single-family dwellings, municipal utilities and buildings, churches and temples, schools, parks and country clubs, farming | None | 2 acres | 150 feet | 731 | 100.0 | 5.4 |
| Subtotal | -- | -- | -- | -- | 731 | 100.0 | 5.4 |
| CITY OF DELAFIELD ZONING ORDINANCE | | | | | | | |
| C-1 Conservancy District | Harvesting of wild crops, sustained yield forestry, dams and hydro-electric power stations, utility conduits and lines, nonresidential buildings in conjunction with raising of animals, public parks, and buildings | Developments which are compatible and harmonious with the natural features of the conservancy district area | No minimum required | No minimum required | 303 | 13.0 | 2.2 |
| A-1 Agricultural District | One-family dwellings and one-family dwellings in conjunction with a farm operation, accessory uses and buildings, nurseries, green houses, hatcheries, roadside stands | Legal nonconforming uses, commercial kennels, cemeteries, noncommercial clubs and outdoor recreation areas, riding academies, public, semipublic and governmental buildings, solar energy collection devices, quarrying and mineral extraction | 3 acres | 200 feet | 443 | 19.0 | 3.3 |
| A-1E Exclusive Agricultural District | One-family dwellings in conjunction with a farm operation, ordinary farm uses, accessory uses and buildings, nurseries, greenhouses, horticulture, roadside stands | Same as in A-1 District | 3 acres | 200 feet | 260 | 11.1 | 1.9 |
| RE-3 Three-Acre Rural Estate District | Single-family dwellings, essential services, keeping of horses for noncommercial purposes | Legal nonconforming uses, commercial kennels, cemeteries, noncommercial clubs and outdoor recreation areas, riding academies, public, semipublic and governmental buildings, temporary model home and sales office, solar energy collection devices, planned developments, quarrying and mineral collection | 3 acres | 200 feet | 174 | 7.4 | 1.3 |
| RE-2 Two-Acre Rural Estate District | Single-family dwellings, essential services | Same as RE-3 Three-Acre Rural Estate District | 2 acres | 200 feet | 595 | 25.5 | 4.4 |
| RE-1 One-Acre Rural Estate District | Single-family dwellings, essential services | Same as RE-3 Three-Acre Rural Estate District | 1 acre | 140 feet | 91 | 3.9 | 0.7 |
| RL-1 Residential Lake District | Single-family dwellings, essential services | Same as RE-3 Three-Acre Rural Estate District | 40,000 square feet | 100 feet | 74 | 3.2 | 0.5 |
| RL-1A Residential Lake District | Single-family dwellings, essential services | Same as RE-3 Three-Acre Rural Estate District | 20,000 square feet | 80 feet | 3 | 0.1 | 0.1 |
| R-1 Single-Family Residence District | Single-family dwellings, essential services | Same as RE-3 Three-Acre Rural Estate District | 30,000 square feet | 120 feet | 7 | 0.3 | 0.1 |
| R-2 Single- and Two-Family Residential District | Single- and two-family dwellings, essential services | Same as RE-3 Three-Acre Rural Estate District | 30,000 square feet | 120 feet | -- | -- | -- |
| R-3 Single- and Two-Family Residential District | Single- and two-family dwellings, essential services | Same as RE-3 Three-Acre Rural Estate District | 20,000 square feet | 100 feet | 7 | 0.3 | 0.1 |
| R-4 Single- and Two-Family Residential District | Single- and two-family dwellings, essential services | Same as RE-3 Three-Acre Rural Estate District | 7,900 square feet | 66 feet | -- | -- | -- |
| R-5 Planned Development District | Single- and two-family residences, essential services | See St. John's-on-the-Lake subdivision documents | No minimum required | No minimum required | -- | -- | -- |
| R-6 Multiple-Family Residential District | Attached multiple-family dwellings, essential services | Same as RE-3 Three-Acre Rural Estate District | 2,500 square feet for efficiency units, 3,000 square feet for one bedroom units, and 4,000 square feet for two bedroom units | 100 feet | 15 | 0.6 | 0.1 |

Table 17 (continued)

| Zoning District | Permitted Uses | Conditional Uses | Minimum Lot Size | | Acres | Percent of Civil Division | Percent of Study Area |
|---|---|---|---|----------|---------------------|---------------------------|-----------------------|
| | | | Area | Width | | | |
| CITY OF DELAFIELD ZONING ORDINANCE (continued) | | | | | | | |
| R-7-EH Multi-Family Elderly Housing District | Attached multi-family dwellings, essential services | Same as RE-3 Three-Acre Rural Estate District | Same as R-6 Multi-Family Residential District | 100 feet | -- | -- | -- |
| CBD-1 Central Business District | Convenience and general retail, commercial uses (see Ordinance) | One- and two-family residential dwellings, multi-family dwellings, public and semi-public buildings, automobile service stations, boat sales, service and repair, private schools and theaters (indoor) | 4,500 square feet | 45 feet | -- | -- | -- |
| B-1 Local Business Residence District | Generally recognized retail business, personal service establishments, dry cleaning, business service establishments, professional services, sales and service establishments, post office, residential dwelling units in a commercial building, single-family residences, essential services | Legal nonconforming uses, cemeteries, noncommercial clubs and outdoor recreational facilities, riding academies, public, semipublic and governmental buildings, boat sales, service and repairs, quarrying and mineral extraction | 5,000 square feet | 100 feet | -- | -- | -- |
| B-1A Business and Limited Residence District | Uses similar to those in the B-1 Local Business Residence District (see zoning ordinance) | Same as B-1 Local Business Residence District | 10,000 square feet | 100 feet | 22 | 0.9 | 0.2 |
| B-2 Local Business District | Same as B-1 District | Same as B-1 Business Residence District plus drive-in restaurants | 15,000 square feet | 120 feet | 195 | 8.3 | 1.4 |
| B-3 Local and Highway Business District | Same as B-3 District plus amusement establishments, animal hospitals, auction rooms, blueprinting, garden supplies, hotels, medical laboratories, motels, offices, printing establishments, research labs, private schools, taxidermists, and other similar uses | Same as B-2 District plus dumps, land fills, incinerators, pool halls, and dance halls | 20,000 square feet | 120 feet | 67 | 2.9 | 0.5 |
| B-4 General Business District | Same as B-3 District plus warehousing, wholesaling and distribution operations and permitted uses in the M-1 Industrial District | Same as B-3 District plus sales and service of mopeds | 20,000 square feet | 120 feet | 81 | 3.5 | 0.5 |
| B-5 Office and Research Commercial District | Professional offices, business offices, and office research uses | Same as B-1 District | 40,000 square feet | 120 feet | -- | -- | -- |
| M-1 Limited Industrial District | Wholesale and warehouse activities and light industrial uses | Same as B-4 District | 1 acre | 150 feet | -- | -- | -- |
| Subtotal | -- | -- | -- | -- | 2,337 | 100.0 | 17.3 |
| Total | -- | -- | -- | -- | 13,518 ^a | -- | -- |

^aTotal acres do not include unzoned surface water area within the study area consisting of 2,097 acres.

Source: SEWRPC.

and wells in these areas fail to function properly. The Village's one and one-half-mile subdivision plat review authority can be utilized to control such development based on the physical development objectives in the village land use plan.

The subdivision and improvement of land within the Village is regulated by the Village Subdivision and Platting Ordinance (Revised Ordinance No. 289). The ordinance requires that preliminary and final subdivision plats be filed for all divisions of land which create five or more parcels, at one time or by successive divisions, within a period of five years. It further requires that a certified survey map be filed for all divisions of land which create two to four parcels which are four acres or less in size. The ordinance sets forth specific requirements

for preliminary and final plats. Furthermore, the ordinance requires that a subdivider install subdivision improvements prior to final plat approval and that park and school sites be reserved or dedicated or that a fee be paid in lieu of site dedication.

The Village of Hartland does not have an adopted Official Map Ordinance for the area within the village limits and its one and one-half-mile extra-territorial plat approval jurisdictional area. Such an ordinance can be an effective tool in reserving land for future streets, highways, and parkways. An Official Map Ordinance should be adopted by the Village reflecting existing street and parkway development as well as certain land use and transportation system development recommendations contained herein.

SUMMARY OF PRINCIPAL FACTORS AFFECTING LAND USE PLANNING IN THE VILLAGE OF HARTLAND

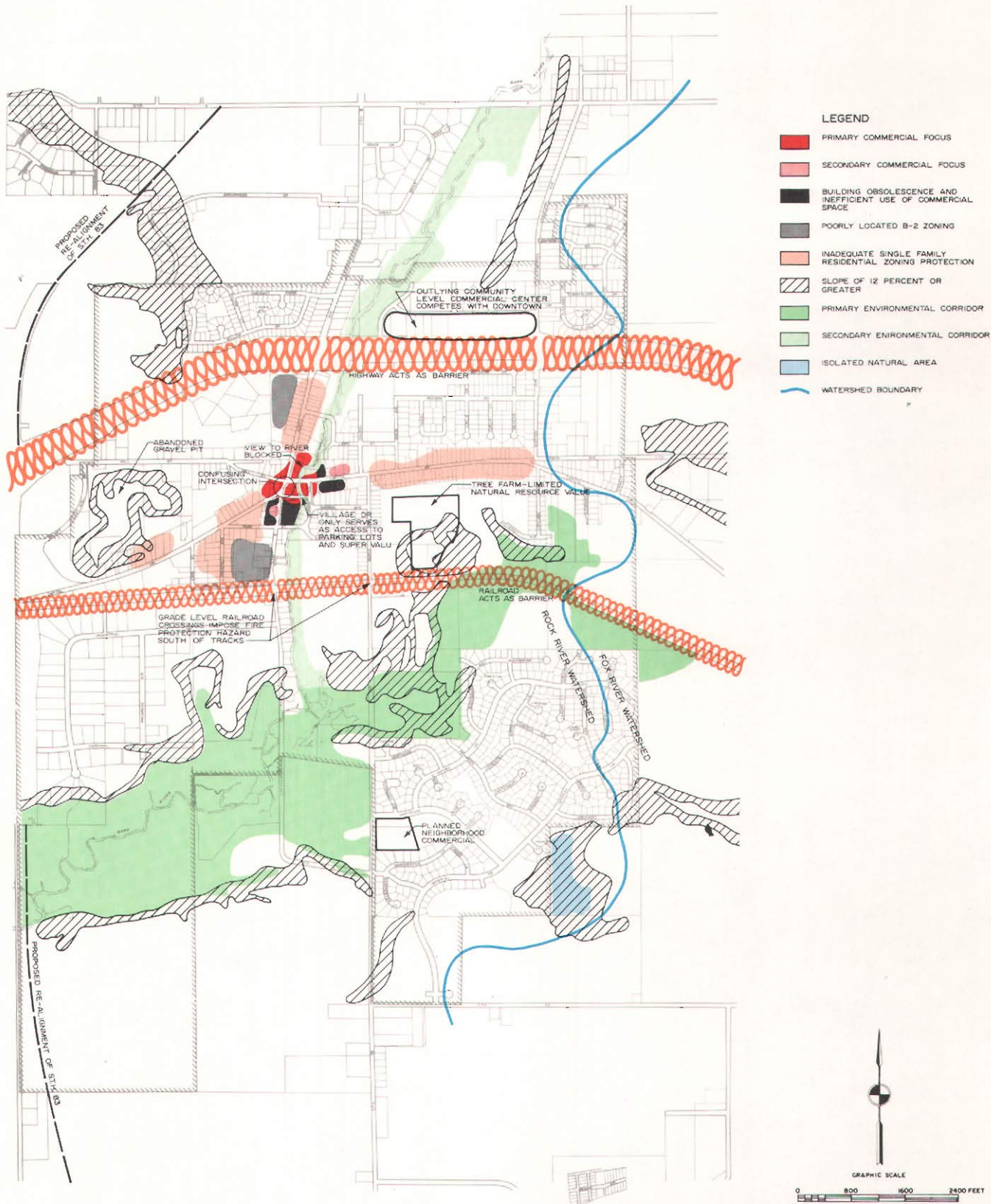
This chapter provided an inventory and analysis of the population and economic characteristics as well as the man-made and natural resource features of the study area. Certain of these characteristics and features pose either constraints on, or opportunities for, future land use development in the Village. This information not only provides the framework within which a land use plan can be formulated, but is useful in defining the specific physical development land use objectives of the community. The principal man-made and natural resource factors affecting land use planning and development in the Village of Hartland are summarized in graphic form on Map 24. The following list provides a complete summary of all principal factors affecting land use planning in the Village.

1. Between 1970 and 1979, the population of the Village approximately doubled in size. The population in the Village of Hartland sewer service area may be expected to increase from its 1979 level of 5,513 persons to 10,700 persons by the year 2000, approximately doubling again. The new Dela-Hart regional sewage treatment plant and attendant trunk sewers are designed to serve this anticipated population.
2. The percentage of school age children to the total population in the sewer service area (ages 5 through 17) may be expected to decrease from its 1970 level of about 32 percent to about 20 percent by the year 2000.
3. The location of a major watershed boundary between the Fox River and Bark River watersheds along the eastern edge of the Village precludes major expansion of gravity flow sanitary sewer service to lands east of the existing corporate limits.
4. The Bark River and its associated floodlands are located through the center of the Village, offering major potential for open space and recreational development.
5. Wet, poorly drained, organic soils are most dominant along the Bark River in the southern portion of the Village and are generally flanked by steep slopes.

6. The Village of Hartland sanitary sewer service area contains approximately 200 acres of public outdoor recreational land. Based on a current resident population of 5,513, approximately 36 acres of recreational land is being provided for each 1,000 persons in the Village.
7. The Village of Hartland is surrounded on all sides by large acreages of prime agricultural land.
8. Residential development comprises approximately 586 acres, or 50 percent, of all urban development in the Village. Two-family and multiple-family development together comprise approximately 96 acres, or about 8 percent of all residential development in the Village.
9. The downtown area and Hartbrook Center, the two principal commercial areas in the Village, provide similar goods and services and generally maintain a competitive retail market relationship with one another.
10. Approximately 12 acres of undeveloped, geographically isolated B-2 Business-zoned property is located on the fringes of the downtown area.
11. The primary focus of commercial activity in the downtown is centered around the intersection of North Avenue, E. Capitol Drive, Cottonwood Avenue, and Hill Street. The intensity of land use tends to diminish as distance increases from this intersection.
12. The CMStP&P railroad tracks and STH 16 act as major barriers to north-south traffic movement in the Village.
13. The 35-acre abandoned gravel pit located on the western edge of the Village has a blighting influence on the Village, but offers potential for some form of adaptive re-use and development.
14. The "six-point" street intersection in the center of the downtown area acts as a traffic hazard to motorists and pedestrians.
15. The grade level street crossing over the CMStP&P Railroad at CTH HE is the principal means of access to the southern por-

Map 24

PRINCIPAL MAN-MADE AND NATURAL RESOURCE FACTORS AFFECTING LAND USE PLANNING AND DEVELOPMENT IN THE VILLAGE OF HARTLAND: 1979



Source: SEWRPC.

tions of the Village. Since the Village's fire station is located north of the tracks, this grade level crossing imposes a potential fire protection hazard to urban development located south of the tracks.

16. A neighborhood retail commercial center consisting of approximately seven acres is planned for the intersection of Hartridge Drive and CTH HE.

17. Preliminary plans propose to extend trunk sewers to the undeveloped area located

north of Sunnyslope Estates and to the undeveloped area located between the Hartridge Subdivision and E. Capitol Drive.

18. The Village has recently purchased the old Shogen Chevrolet property on Cottonwood Avenue. The existing building on the property is being renovated and expanded for the new village hall, which will contain the police department, library, engineering department, and general administrative offices.

Chapter III

OBJECTIVES, PRINCIPLES, AND STANDARDS

INTRODUCTION

Planning is a rational process for formulating and meeting objectives. Therefore, the formulation of objectives is an essential task which must be undertaken before plans can be prepared. Sound physical development objectives should, in any planning effort, reflect the values and basic needs of the community. The development objectives contained herein were formulated with the assistance of the Village Plan Commission—a body composed of elected and appointed public officials and knowledgeable citizens, and therefore well representative of the community at large. The objectives were developed from and represent local adaptations of regional land use development objectives. Therefore, the recommended land use plan presented herein attempts to recognize and incorporate not only local values and needs, but also the broader, areawide values and needs expressed in regional and county plans. However, since the land use plan presented herein is specifically intended to be used to guide physical development in the Village, the planning process applied in formulating the objectives emphasized the specific local issues and concerns to be addressed by the plan.

In the initial stages of the land use planning process, a joint meeting was held of the Village Board and the Village Plan Commission for the purpose of identifying physical development issues and problems of principal concern to the Village. It was believed that through this collaborative effort the concerns of the Village could be identified and then be used, in part, as a basis for formulating sound physical development objectives and alternative plans to meet those objectives, and to identify the best plan from among the alternatives. At this meeting, the Village Board and Plan Commission members identified high priority problems and concerns. The identified problems and concerns were then ranked in terms of their level of importance. The following list contains the results of this meeting:

Ranked, High Priority Issues and Problems in the Village of Hartland

1. Define the limits of future annexations to the Village.

2. Identify the need for and the desirable amount and location of industrial and commercial development.
3. Define village sewer and water service needs.
4. Determine needed revisions to the village zoning ordinance.
5. Identify the need for and the desirable amount and location of additional parkland.
6. Improve vehicular traffic circulation in the Village.
7. Identify the best means to control the rate of new development in the Village, particularly after the sanitary sewer moratorium is lifted.
8. Identify the best means to control new residential development densities in the Village.
9. Identify the limits of the Village's financial capability.
10. Identify the need for and the desirable amount and location of central business district expansion and the best means to maintain the vitality of the central business district.
11. Identify a desirable ratio of single-family to multiple-family housing.
12. Identify an improved routing of CTH HE through the Village and determine the best location for a railroad grade separation to carry this arterial over the CMStP&P Railroad.

It should further be noted that certain additional problems and issues such as those concerning the need for housing rehabilitation, noise control, and sign control were identified but were not ranked as high priority problems and issues. However, these secondary level problems and issues were also considered in formulating the physical development objectives of the Village.

BASIC CONCEPTS AND DEFINITIONS

Definitions of the term "objective" as well as of the terms "principle," "standard," "plan," "policy," and "program" have been advanced by the Regional Planning Commission in order to provide a common frame of reference for planning activities within the Region. Such definitions are needed because the term "objective" is subject to a wide range of interpretation and application and is closely linked to other terms often used in planning work which are equally subject to a wide range of interpretation and application. These definitions, originally advanced in 1963, have proven sound over time and are set forth below as originally advanced:

1. Objective: a goal or end toward the attainment of which plans and policies are directed.
2. Principle: a fundamental, primary, or generally accepted tenet used to support objectives and prepare standards and plans.
3. Standard: a criterion used as a basis of comparison to determine the adequacy of plan proposals to attain objectives.
4. Plan: a design which seeks to achieve agreed-upon objectives.

5. Policy: a rule or course of action used to ensure plan implementation.

6. Program: a coordinated series of policies and actions to carry out a plan.

Although this chapter deals with only the first three of these terms, an understanding of the interrelationship of these terms and the basic concepts which they represent is essential to a good understanding of the land use development objectives, principles, and standards set forth below.

The inventory findings relating to the natural and man-made features of the study area, the principal factors affecting land use planning and development in the Village, and existing applicable public plans and policies as set forth in the previous chapter were utilized in the formulation of the recommended land use development objectives, together with the issues and problems identified by the village officials. The resulting set of land use development objectives and their supporting principles and standards, as set forth below, primarily addresses the allocation and distribution in the Village of the various land uses and the provision of community facilities and supporting services to meet the needs of the existing and probable future resident population of the Village to the year 2000.

OBJECTIVES, PRINCIPLES, AND STANDARDS FOR THE VILLAGE OF HARTLAND AND ENVIRONS

OBJECTIVE NO. 1

Provide a balanced allocation of space to various land use categories which will meet the social, physical, and economic needs of the existing and probable future resident population of the village sewer service area.

PRINCIPLE

The planned supply of land set aside for any given use should approximate the known and anticipated demand for that use.

STANDARD

The land area set aside for accommodating forecast growth in the village sewer service area should be based upon Table 18.

OBJECTIVE NO. 2

A spatial distribution of the various land uses which will result in the protection and wise use of the natural resource base in the village study area.

PRINCIPLE

The proper distribution of land uses can assist in maintaining an ecological balance between the activities of man and the natural environment which supports him.

Table 18

URBAN LAND USE STANDARDS FOR THE VILLAGE OF HARTLAND SEWER SERVICE AREA

| Land Use Category | Development Standard (gross area) ^a |
|--|--|
| Residential | 109 acres per 1,000 persons |
| Commercial ^b | |
| Neighborhood Retail | 1.25 acres per 1,000 persons |
| Community Retail | 1 acre per 1,000 persons |
| Manufacturing and Wholesale | 12 acres per 100 employees |
| Governmental and Institutional | |
| Public Elementary School (K-8) | 0.9 acre per 100 students |
| Public High School (9-12) | 0.6 acre per 100 students |
| Church | 2.5 acres per 1,000 persons |
| Other | 4.5 acres per 1,000 persons |
| Public Outdoor Recreation | |
| Regional and Multi-Community | As recommended in the regional park and open space plan |
| Community | |
| In Park Sites | 2.2 acres per 1,000 persons |
| In High School Sites | 0.9 acre per 1,000 persons |
| Neighborhood | |
| In Park Sites | 1.7 acres per 1,000 persons |
| In Elementary School Sites | 1.6 acres per 1,000 persons |

^aGross area includes street rights-of-way. All standards are intended to be applied to Village of Hartland sanitary sewer service area population forecasts unless otherwise noted.

^bThese standards are intended to be applied to retail trade area population forecasts.

Source: SEWRPC.

STANDARDS

1. All residential development served by centralized sanitary sewerage facilities or utilizing onsite soil absorption sewage disposal systems should be prohibited on soils which have severe or very severe limitations for such development.
2. All nonagricultural development should be prohibited on prime agricultural land.
3. All development within primary environmental corridors should be discouraged. If permitted, the intensity of development should be limited to a level which does not alter or destroy the environmental value of the corridor.
4. All urban development within floodlands should be prohibited.

OBJECTIVE NO. 3

Facilities offering goods and supportive neighborhood and community services should be located and designed to provide optimum levels of service and convenience.

PRINCIPLE

The location and extent of commercial facilities, educational facilities, transportation facilities, recreational facilities, and employment opportunities are important determinants of the quality of life and, therefore, should be preserved and expanded as required to meet the future needs of the resident population of the village sewer service area.

STANDARD

Sites for neighborhood and community service facilities should be provided based upon the guidelines set forth in Table 19.

OBJECTIVE NO. 4

The provision of an integrated system of public general use outdoor recreation sites and related open space areas which will allow the resident population of the village sewer service area adequate opportunity to participate in a wide range of outdoor recreation activities.

PRINCIPLE

Public outdoor recreation sites promote the maintenance of proper physical and mental health both by providing opportunities to participate in such athletic recreational activities as baseball, swimming, tennis, and ice skating—activities that facilitate the maintenance of proper physical health because of the exercise involved—and by providing opportunities to participate in such less athletic activities as pleasure walking, picnicking, or just rest and reflection. These activities tend to reduce everyday tensions and anxieties and thereby help maintain proper physical and mental well being. Well-designed and properly located outdoor recreation sites also provide a sense of community, bringing people together for social and cultural as well as recreational activities, and thus contribute to the desirability and stability of residential neighborhoods and therefore the communities in which such facilities are provided.

Table 19

**COMMUNITY FACILITY SITE AREA AND SITE ACCESSIBILITY
STANDARDS FOR THE VILLAGE OF HARTLAND SEWER SERVICE AREA**

| Facility | Number of Persons Served | Required Site Area (gross acres) | Maximum One-Way Walking Distance Medium-Density Neighborhood (miles) | Maximum One-Way Travel Time (minutes) | |
|--|--------------------------|----------------------------------|--|---------------------------------------|-------------------------------------|
| | | | | Automobile at 25 MPH | Transit Facility Total Elapsed Time |
| Commercial Neighborhood Retail and Service Center . . . | 4,000-8,000 | 6.5 | 0.50 | 3 | -- |
| Community Retail and Service Center | 10,000-25,000 | 20-60 | 1.50 | 15 | 20 |
| Community Industrial | 300-5,000 employees | 20-640 | -- | 15 | 20 |
| Local Transit | -- | -- | 0.75 | -- | -- |
| Educational Elementary School (Grades K-8) | 700-850 students | 15 | 0.75 | -- | -- |
| Senior High School (9-12) | 2,300 students | 48 | -- | 20 | 30 |
| Outdoor Recreational Neighborhood Park | 3,500-8,000 | 6-16 | 0.50 | -- | -- |
| Community Park | 11,500-45,000 | 25-99 | 2.00 | 20 | 30 |

Source: SEWRPC.

STANDARD

The Village should provide outdoor recreation sites sufficient in size and number to meet the recreation demands of the resident population. Such sites should contain the natural resource or man-made amenities appropriate to the recreational activities to be accommodated therein and be spatially distributed in a manner which provides ready access by the resident population. To achieve this standard, the public outdoor recreation site requirements should be met as indicated in Table 20.

OBJECTIVE NO. 5

A flexible, balanced transportation system that will provide orderly and efficient traffic movement in the village sewer service area.

PRINCIPLE

A flexible, balanced transportation system is necessary to provide an adequate level of transportation service to all segments of the population, to support essential economic and social activities, and to achieve economy and efficiency in the provision of transportation service. Streets and highways should provide safe and convenient vehicular access to individual properties and fluid traffic movement to, from, and within all portions of the Village. Roadway pavement and right-of-way widths should reflect anticipated traffic volumes and the kind of traffic to be served, and should be properly related to land use development types and densities and individual transportation habits and needs to be served. In addition, adequate amounts of on-street and off-street parking should be provided in the Village, particularly in the Village's central business district, where the amount and location of parking in relation to commercial land uses and related community facilities and services is an important determinant of the economic vitality of the central business district.

STANDARDS

1. All streets in the village sewer service area should be classified into one of the following functional categories:

Land Access Street—conducts traffic to and from individual properties and other local, collector, or arterial streets.

Collector Street—collects traffic from land access streets and conveys it to arterial streets and/or activity centers.

Arterial Street—provides for expeditious movement of through traffic into, out of, and within the community.

2. Streets in the village sewer service area should be provided in accordance with the typical cross sections shown in Figures 3 through 6.

3. Parking should be provided in the central business district at the rate of four spaces per 1,000 square feet of gross commercial floor area. Required off-street parking spaces should be located within 330 feet of uses served in the downtown. Off-street parking should also be concentrated within the primary focus of commercial activity.

OBJECTIVE NO. 6

Provide housing within a suitable physical environment and so sited and designed as to constitute an integral part of the Village's neighborhood areas and the Village as a whole.

PRINCIPLE

Residential areas developed in planned neighborhood units can assist in stabilizing community property values, preserving residential amenities, and promoting efficiency in the provision of public community service facilities and utilities; can best provide a desirable environment for family life; and can provide the population with improved levels of safety and convenience.

STANDARDS

1. Residential neighborhood units should be physically self-contained within clearly defined and relatively permanent isolating boundaries, such as arterial streets and highways, major park and open space reservations, or significant natural features such as rivers, streams, or hills.

Table 20

STANDARDS FOR PUBLIC GENERAL USE OUTDOOR RECREATION SITES

| Site Type | Size (gross acres) | Publicly Owned General Use Sites | | | | | | | |
|------------------------------------|--------------------|--|---|---|-------------------|--|--|---|-------|
| | | Minimum Per Capita Acreage Requirements (acres per 1,000 persons) ^d | Parks | | | | Schools ^a | | |
| | | | Typical Facilities | Maximum Service Radius (miles) ^b | | Minimum Per Capita Acreage Requirements (acres per 1,000 persons) ^f | Typical Facilities | Maximum Service Radius (miles) ^g | |
| | | | | Urban ^e | Rural | | | Urban ^e | Rural |
| I ^g Regional | 250 or more | 5.3 | Camp sites, swimming beach, picnic areas, golf course, ski hill, ski touring trail, boat launch, nature study area, playfield, softball diamond, passive activity area ^h | 10.0 | 10.0 | -- | -- | -- | -- |
| II ⁱ Multi-Community | 100-249 | 2.6 | Camp sites, swimming pool or beach, picnic areas, golf course, ski hill, ski touring trail, boat launch, nature study area, playfield, softball and/or baseball diamond, passive activity area ^h | 4.0 ^j | 10.0 ^j | -- | -- | -- | -- |
| III ^k Community | 25-99 | 2.2 | Swimming pool or beach, picnic areas, boat launch, nature study area, playfield, softball and/or baseball diamond, tennis court, passive activity area ^h | 2.0 | -- | 0.9 | Playfield, baseball diamond, softball diamond, tennis court | 0.5-1.0 ^m | -- |
| IV ⁿ | Less than 25 | 1.7 | Wading pool, picnic areas, playfield, softball and/or baseball diamond, tennis court, playground, basketball goal, ice-skating rink, passive activity area ^h | 0.5-1.0 ^o | -- | 1.6 | Playfield, playground, baseball diamond, softball diamond, tennis court, basketball goal | 0.5-1.0 ^m | -- |

^a In urban areas the facilities commonly located in Type III or Type IV school outdoor recreation areas often provide a substitute for facilities usually located in parks by providing opportunities for participation in intensive nonresource-oriented activities.

^b The identification of a maximum service radius for each park type is intended to provide another guideline to assist in the determination of park requirements and to assure that each resident of the Hartland area as well as the Region has ready access to the variety of outdoor recreation facilities commonly located in parks.

^c The identification of a maximum service radius for each school site is intended to assist in the determination of outdoor recreation facilities requirements and to assure that each urban resident has ready access to the types of facilities commonly located in school recreation areas.

^d For Type I and Type II parks, which generally provide facilities for resource-oriented outdoor recreation activities for the total population of the Region, the minimum per capita acreage requirements apply to the total resident population of the Region. For Type III and Type IV sites, which generally provide facilities for intensive nonresource-oriented outdoor recreation activities primarily in urban areas, the minimum per capita acreage requirements apply to the resident population of the Village of Hartland study area.

^e Urban areas are defined as areas containing a closely spaced network of minor streets which include concentrations of residential, commercial, industrial, governmental, or institutional land uses having a minimum total area of 160 acres and a minimum population of 500 persons. Such areas usually are incorporated and are served by sanitary sewerage systems. These areas have been further classified into the following densities: low-density urban areas or areas with 0.70 to 2.29 dwelling units per net residential acre, medium-density urban areas or areas with 2.30 to 6.99 dwelling units per net residential acre, and high-density urban areas or areas with 7.00 to 17.99 dwelling units per net residential acre.

^f For public school sites, which generally provide facilities for intensive nonresource-oriented outdoor recreation activities, the minimum per capita acreage requirements apply to the resident population residing in urban areas such as the Village of Hartland.

^g Type I sites are defined as large outdoor recreation sites having a multi-county service area. Such sites rely heavily for their recreational value and character on natural resource amenities. Type I parks provide opportunities for participation in a wide variety of resource-oriented outdoor recreation pursuits.

^h A passive activity area is defined as an area within an outdoor recreation site which provides an opportunity for such less athletic recreational pursuits as pleasure walking, rest and relaxation, and informal picnicking. Such areas generally are located in all parks or in urban open space sites, and usually consist of a landscaped area with mowed lawn, shade trees, and benches.

ⁱ Type II sites are defined as intermediate size sites having a countywide or multi-community service area. Like Type I sites, such sites rely for their recreational value and character on natural resource amenities. Type II parks, however, usually provide a smaller variety of recreation facilities and have smaller areas devoted to any given activity.

^j In general, each resident of the Village of Hartland study area should reside within 10 miles of a Type I or Type II park.

^k Type III sites are defined as intermediate size sites having a multi-neighborhood service area. Such sites rely more on the development characteristics of the area to be served than on natural resource amenities for location.

^l In urban areas the need for a Type III site is met by the presence of a Type II or Type I site. Thus, within urban areas having a population of 7,500 or greater, each urban resident should be within two miles of a Type III, II, or I park site.

^m The typical service radius of school outdoor recreation facilities is governed by individual facilities within the school site and by population densities in the vicinity of the site. In medium-density urban areas, such as the Village of Hartland, each resident should reside within 0.75 mile of facilities commonly located in a Type III or Type IV school outdoor recreation area; and in low-density urban areas each urban resident should reside within one mile of the facilities commonly located in a Type III or Type IV school outdoor recreation area.

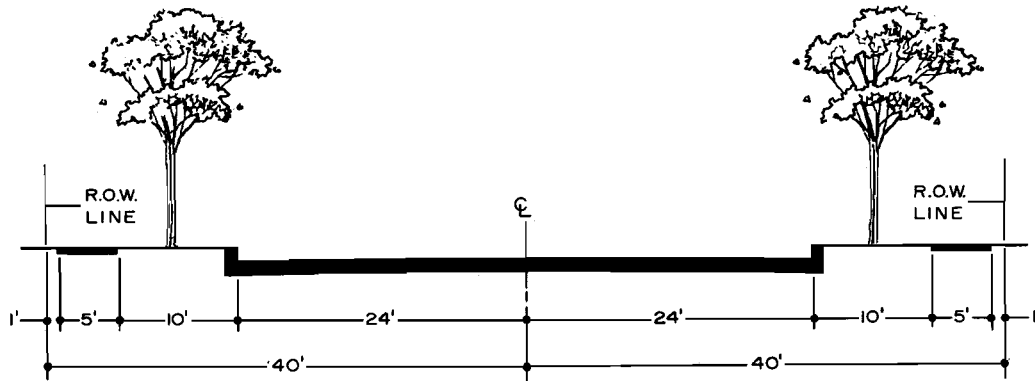
ⁿ Type IV sites are defined as small sites which have a neighborhood as the service area. Such sites usually provide facilities for intensive nonresource-oriented outdoor recreation activities and are generally provided in urban areas. These acreage standards relate to lands required to provide for recreation facilities typically located in a neighborhood and are exclusive of the school building site and associated parking area and any additional natural areas which may be incorporated into the design of the park site such as drainageways and associated storm water retention basins, areas of poor soils, and floodland areas.

^o The maximum service radius of Type IV parks is governed primarily by the population densities in the vicinity of the park. In medium-density urban areas such as the Village of Hartland, each resident should reside within 0.75 mile of a Type IV park; and in low-density urban areas, each urban resident should reside within one mile of a Type IV park.

Source: SEWRPC.

Figure 3

TYPICAL CROSS-SECTION "A": DESIRABLE URBAN TWO-LANE ARTERIAL STREET



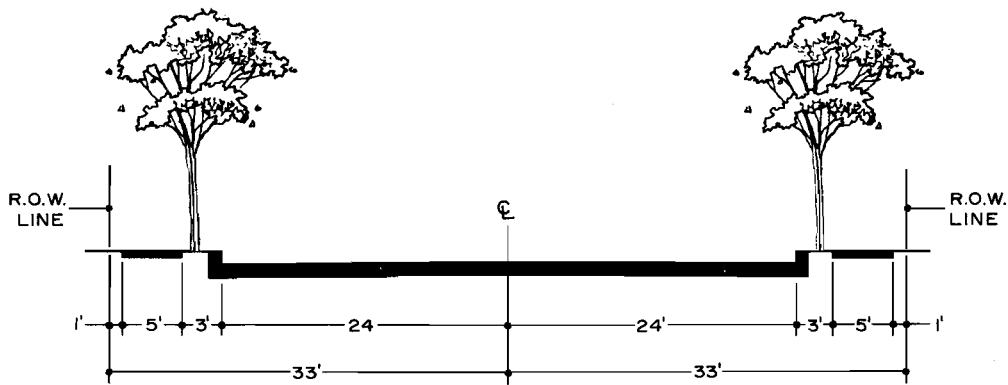
9" GRAVEL BASE
48' HIGH TYPE PAVEMENT
80' R.O.W. (ADDITIONAL RIGHT-OF-WAY
MAY BE RESERVED IN UNDEVELOPED
AREAS UP TO 100')

MAXIMUM SERVICE VOLUME : 12,300 - 13,900 VEH./DAY

Source: SEWRPC.

Figure 4

TYPICAL CROSS-SECTION "B": MINIMUM URBAN TWO-LANE ARTERIAL STREET



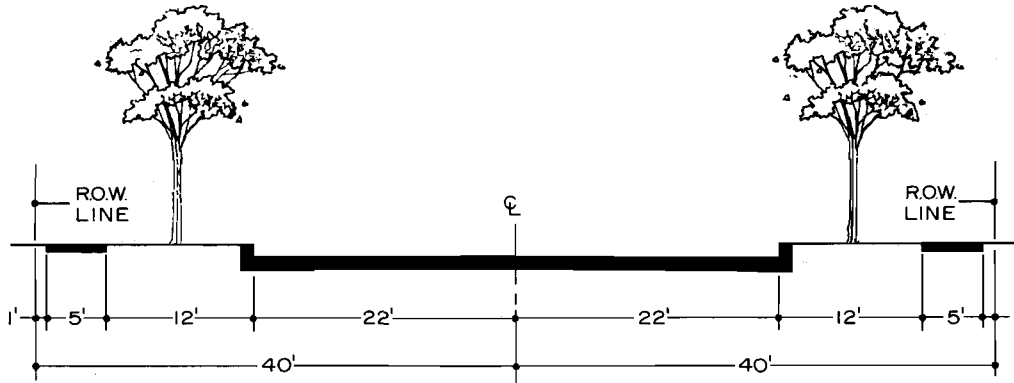
6" GRAVEL BASE
48' HIGH TYPE PAVEMENT
66' R.O.W.

MAXIMUM SERVICE VOLUME : 15,700 - 19,500 VEH./DAY

Source: SEWRPC.

Figure 5

TYPICAL CROSS-SECTION "C": DESIRABLE URBAN COLLECTOR STREET



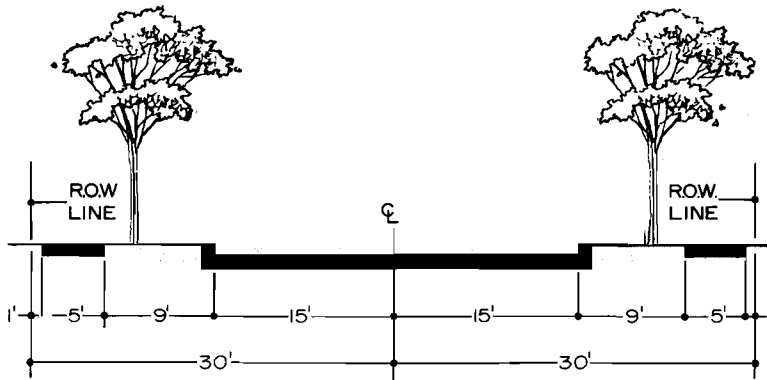
9" GRAVEL BASE
48' HIGH TYPE PAVEMENT
80' R.O.W.

MAXIMUM SERVICE VOLUME : 9,00-10,300 VEH./DAY

Source: SEWRPC.

Figure 6

TYPICAL CROSS-SECTION "D": DESIRABLE URBAN MINOR STREET



9" GRAVEL BASE
34' HIGH TYPE PAVEMENT
60' R.O.W.

Source: SEWRPC.

2. Residential neighborhood units should contain enough area to provide housing for the population to be served by one elementary school and by one neighborhood park; an internal street system which discourages penetration of the unit by through traffic; and all of the community and commercial facilities necessary to meet the day-to-day living requirements of the family within the immediate vicinity of its dwelling unit. To meet these requirements at varied residential densities, the guidelines found in Table 21 should be approximated.

OBJECTIVE NO. 7

Provide a variety of housing types for varying age and income groups, and for different size households.

PRINCIPLE

While it is likely that the single-family home will continue to be the dominant housing type in the Village of Hartland, two-family and multiple-family apartment housing units in a range of costs and sizes and in amounts necessary to satisfy the housing demands of the Village's steadily growing and increasingly diverse population should be provided.

STANDARDS

In developing medium-density neighborhood areas of the Village, residential development should be accomplished in accordance with the following general guidelines:

1. Approximately 82 percent of residential development within a medium-density neighborhood area should consist of single-family housing.
2. Approximately 18 percent of residential development within a medium-density neighborhood area should consist of two-family and multiple-family housing.

OBJECTIVE NO. 8

Maintain, preserve, and, as necessary, rehabilitate the Village's existing housing stock.

PRINCIPLE

Housing is remarkably durable, and with adequate maintenance, most dwellings will deteriorate rather slowly with age. Important to the establishment of an adequate supply of sound housing, therefore, is the continual need for preventive maintenance of basically sound housing units and early rehabilitation of deteriorating housing units.

Table 21

NEIGHBORHOOD PLANNING STANDARDS

| Land Use | Low-Density Development (2 miles square) | Medium-Density Development (1 mile square) | High-Density Development (0.5 mile square) |
|---|--|--|--|
| | Percent of Area | Percent of Area | Percent of Area |
| Residential | 80.0 | 71.0 | 66.0 |
| Streets and Utilities | 16.5 | 23.0 | 25.0 |
| Parks and Playgrounds | 1.5 | 2.5 | 3.5 |
| Public Elementary School | 0.5 | 1.5 | 2.5 |
| Other Governmental and Institutional | 1.0 | 1.0 | 1.5 |
| Commercial | 0.5 | 1.0 | 1.5 |
| Total | 100.0 | 100.0 | 100.0 |

Source: SEWRPC.

STANDARDS

1. Basically sound housing units which have only minor defects should be upgraded and maintained in sound condition to the maximum extent possible.
2. Basically sound housing units which have major defects should be repaired and rehabilitated and measures should be taken to eliminate or minimize future deterioration.
3. Housing units which have deteriorated to the point of becoming a health or safety hazard for their occupants and which are not economically feasible to rehabilitate should be removed and replaced by decent, safe, and sanitary housing units.

OBJECTIVE NO. 9

Maintain and strengthen the central business district so that it continues to provide a focus for community level commercial and institutional activity while physically expressing an independent, urban identity and sense of place that is unique to Hartland.

PRINCIPLE

The central business district provides community level commercial facilities and services, cultural facilities, and other public and quasi-public facilities services in convenient proximity to residential areas, where there are interconnecting arterial streets to ensure ready access. In addition, compact development within the central business district can be conveniently accommodated and made readily accessible to adequate parking and transportation facilities and utilities.

STANDARD

New community level commercial facilities and services should be located close to the peak flow of traffic and pedestrians, where such facilities can be conveniently accommodated and made easily accessible to adequate parking and transportation facilities and utilities.

A. COMPACT CENTRAL BUSINESS DISTRICT LAND USE DEVELOPMENT

Principle

When community level retail facilities and services are concentrated in a single compact location, a center of activity is provided that offers more convenient and economical, as well as pleasing and interesting' experiences to the user.

Standard

Concentrated land use development consisting of a minimum off-street parking and circulation space to first floor gross commercial retail space ratio of 2:1 should be maintained within the central business district.

B. CENTRAL BUSINESS DISTRICT REDEVELOPMENT

Principle

Redevelopment of underdeveloped and blighted land in the central business district contributes to the maintenance of a compact relationship between land uses and therefore reinforces the overall level of convenience and accessibility to downtown businesses as a group. Compact and continuous intensive development in the downtown encourages economic vitality and fosters a positive image of the Village.

Standard

Buildings which have deteriorated to the point of becoming a health or safety hazard, and which are not economically feasible to rehabilitate, should be considered for replacement with new commercial development.

OBJECTIVE NO. 10

Preserve and expand community industrial park development in the Village of Hartland sewer service area.

PRINCIPLE

Industrial growth and expansion in the village sewer service area has a positive impact on the economic vitality and the tax base of the area.

STANDARD

Community industrial facilities should be located in planned industrial districts which meet the following site-specific standards:

1. Direct access to, and good visibility from, the arterial street and highway system.
2. Direct or good indirect access to the railway system.
3. Available adequate water supply.
4. Available adequate public sanitary sewer service.
5. Available adequate storm water drainage facilities.
6. Available adequate power supply.
7. Site should be covered by soils identified in the regional plan as having slight or moderate limitations for industrial development.

OBJECTIVE NO. 11

The preservation of sufficient high-quality open space lands for protection of the underlying and sustaining natural resource base and enhancement of the social and economic well being and environmental quality of the study area.

PRINCIPLE

Ecological balance and natural beauty are primary determinants of the Village's ability to provide a pleasant and habitable environment for all forms of life and to maintain social and economic well being. Preservation of the most significant aspects of the natural resource base—primary environmental corridors and prime agricultural lands—contributes to the maintenance of the ecological balance, natural beauty, and economic well being of the study area.

A. PRIMARY AND SECONDARY ENVIRONMENTAL CORRIDORS

Principle

The primary and secondary environmental corridors are a composite of the best individual elements of the natural resource base and include lakes, rivers, and streams and their associated floodlands; wetlands; wildlife habitat areas; rugged terrain consisting of slopes 12 percent or greater; wet, poorly drained, or organic soils; and significant geological formations. By protecting these elements of the natural resource base, flood damage can be reduced, soil erosion abated, water supplies protected, air cleansed, and wildlife population enhanced, and continued opportunities can be provided for scientific, educational, and recreational pursuits.

Standard

All remaining undeveloped lands within the designated primary and secondary environmental corridors in the study area should be preserved in essentially natural open uses.

B. PRIME AGRICULTURAL LANDS

Principle

Prime agricultural lands constitute the most productive farm lands in the Village of Hartland study area and, in addition to providing food and fiber, contribute significantly to maintaining the ecological balance between plants and animals; provide open spaces which give form and structure to urban development; and serve to maintain the natural beauty and unique cultural heritage of the general area.

Standard

Land ownerships within the study area which are 35 acres or larger in size, which have more than 50 percent of their area covered by national prime farmlands as designated by the U. S. Department of Agriculture, Soil Conservation Service, and which are included within national prime farmland land/ownership aggregates of 640 acres or larger should be preserved.

OBJECTIVE NO. 12

A street and highway system with a high aesthetic quality whose major facilities will possess the proper visual relation to the land and cityscape.

PRINCIPLE

Beauty in the physical environment is conducive to the physical and mental health and well being of people; and, as major features of the land- and cityscape, transportation facilities have a significant impact on the attractiveness of the total environment.

STANDARDS

1. Street and highway facility construction plans should be developed using sound geometric, structural, and landscape design standards which consider the aesthetic quality of the transportation facilities and the areas through which they pass.
2. Street and highway facilities should be located to avoid destruction of visually pleasing buildings, structures, and natural features and to avoid interference with vistas to such features.

OBJECTIVE NO. 13

Urban development in the village sewer service area should be properly related to community utilities in order to assure economical provision of such utilities.

PRINCIPLE

Sewer and water utilities and the urban development they serve and support are mutually interdependent in that the type and extent of urban development determines the demand for community utilities; and these utilities in turn form the basic framework for development.

STANDARDS

1. All lands in the study area developed or proposed to be developed for urban residential use should be located in areas serviceable by an existing or proposed public water supply system.
2. All land in the study area developed or proposed to be developed for urban residential use should be located in areas serviceable by an existing or proposed public sanitary sewerage system and preferably within the gravity flow drainage area tributary to such systems.

OBJECTIVE NO. 14

Provide facilities necessary to maintain high-quality fire and police protection throughout the village sewer service area.

PRINCIPLE

The adequacy of fire protection in the village sewer service area is dependent upon the relationship between the size and distribution of the resident population and the location of facilities and level of manpower and equipment available to service that population.

STANDARD

Fire stations and equipment should be distributed based upon the standards in Table 22.

Table 22

FIRE COMPANY DISTRIBUTION STANDARDS

| District and Required Fire Flow | Optimum Service Radius (miles) | |
|---|---|---------------------------|
| | From Engine Hose, or Engine-Ladder Company | From Ladder Company |
| High-Value District (commercial, industrial, and institutional) | | |
| Where required flow is 9,000 gallons per minute or more | 0.75 | 1.00 |
| Where required fire flow is 5,000 to 8,999 gallons per minute | 1.00 | 1.25 |
| Where required fire flow is less than 4,500 gallons per minute | 1.50 | 2.00 |
| Residential District | | |
| Where required fire flow is more than 2,000 gallons per minute or where there are buildings in the district three or more stories in height, including tenement houses, apartments, or hotels | 1.50 | 2.00 |
| Same as above, but where the lift hazard is above normal. | 1.00 | 1.25 |
| For buildings having an average separation of less than 100 feet (and a fire flow requirement of 2,000 gallons per minute or less) | 2.00 | 3.00 |
| For buildings having an average separation of 100 feet or more (and a fire flow requirement of 2,000 gallons per minute or less) | 4.00 | 4.00 |

NOTE: The above distances should be considered as direct street travel distances. Also, the above distances should be reduced if a severe life hazard exists; if streets are narrow or in poor condition; if traffic, one-way streets, topography, or other unusual locational conditions hinder response; or if other circumstances peculiar to the particular district or municipality indicate that such a reduction is needed.

Source: SEWRPC.

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Chapter IV

LAND USE AND COMMUNITY FACILITY REQUIREMENTS FOR THE YEAR 2000

INTRODUCTION

The objectives, principles, and standards set forth in the previous chapter express the land use development goals of the Village, the supporting principles or rationale behind each goal, and the standards to be used as a basis for generating and evaluating land use plan alternatives. The standards perform a particularly important function in the plan formulation process since they are utilized to identify future land use requirements. The standards consist of two types: comparative and absolute. Comparative standards can be applied only through a comparison of alternative plan proposals. Absolute standards can be applied individually to each alternate plan proposal since they are expressed in terms of maximum, minimum, or desirable values.

As part of the land use planning process, the standards listed in Chapter III were applied to applicable forecast population levels and other pertinent anticipated future conditions. This analysis provided a list of basic land use and community utility and facility requirements to be met in the land use plan design. In addition, certain other general and specific requirements and certain recommendations contained in regional plans prepared by SEWRPC which were considered applicable to the Village were identified. The land use and community facility and utility requirements for the village sewer service area used in the formulation of the plan design are described in the following paragraphs.

LAND USE REQUIREMENTS

The land use requirements for the Village's anticipated future resident population were determined by applying two basic types of standards—namely, per capita standards and accessibility standards. The application of per capita standards, expressed as the number of acres of a given land use category per hundred or per thousand resident population, was used to determine the total number of acres needed to satisfy each basic land use requirement of the resident population for the year 2000. The application of accessibility standards, expressed in terms of maximum service areas for certain sites

and facilities, was used to assure that proposed sites and facilities would be spatially distributed in a manner convenient to the resident population.

Table 23 summarizes future per capita urban land requirements in the Village of Hartland sewer service area through the year 2000. The table utilizes the land use standards set forth under land use development Objective No. 1 for residential, commercial, industrial, institutional, and recreational development. Land requirements for each urban land use category were determined by applying the appropriate land use development standard to 1979 population estimates and to the 2000 forecast population increment. The table indicates that approximately 856 acres of land are expected to be converted to urban use by the year 2000. Of this total, 604 acres would be needed to accommodate anticipated new residential development. As is reflected in Table 23, new residential growth will also generate significant additional urban land needs in the other urban land use categories. The table is expressed in gross acres of each given land use category, which by definition includes supporting public street rights-of-way.

Ideally, the study area should be served by three levels of commercial facilities: neighborhood, community, and regional commercial facilities. Each of these commercial facility types is different in terms of site size requirements, service area population, and number and kind of goods and services offered. Neighborhood retail commercial development includes activities primarily associated with the sale of convenience goods and services. Such facilities should be contained within and oriented to residential neighborhood units. Community retail commercial development includes the sale of convenience and shopper goods and should be oriented to serving the community as a whole. Regional commercial development includes activities associated with the sale of shopper goods and should be oriented to serving a multi-community trade area.

Table 23 indicates that about 10 additional acres of neighborhood retail commercial acreage should be required in the Village by the year 2000. The

Table 23

FUTURE PER CAPITA LAND USE REQUIREMENTS IN THE VILLAGE OF HARTLAND SEWER SERVICE AREA: 2000

| Urban Land Use Category | 1979 Gross Area ^a | | Estimated ^b 1979 Populations | Development Ratios 1979 | SEWRPC Development Standards | Incremental Forecast Populations 1979-2000 | Incremental Land Use Acres Required by SEWRPC Development Standards (gross acres) | Incremental Land Use Acres Required After Consideration of 1979 Gross Area (gross acres) | Total Urban Land Requirements: 2000 | |
|--|------------------------------|---------|---|---|---------------------------------------|--|---|--|-------------------------------------|---------|
| | Acres | Percent | | | | | | | Gross Acres | Percent |
| Residential | 584 | 61.5 | 5,160 persons | 113.1 gross acres per 1,000 persons | 109 gross acres per 1,000 persons | 5,540 persons | 604 | 604 | 1,188 | 65.7 |
| Commercial Neighborhood Retail | 14 ^c | 1.5 | 18,460 ^d persons | 0.7 gross acres per 1,000 persons | 1.25 gross acres per 1,000 persons | 8,060 ^e persons | 10 | 10 | 24 | 1.3 |
| Community Retail | 39 ^c | 4.1 | 18,460 ^d persons | 2.1 gross acres per 1,000 persons | 1.00 gross acres per 1,000 persons | 8,060 ^e persons | 8 | -- ^f | 39 | 2.2 |
| Manufacturing and Wholesale | 101 | 10.7 | 605 industrial employees | 16.7 acres per 100 industrial employees | 12 acres per 100 industrial employees | 1,571 industrial employees | 189 | 189 | 290 | 16.1 |
| Governmental and Institutional Elementary School (K-8) | 8 ^g | 0.8 | 950 students | 0.9 acres per 100 students | 0.9 acres per 100 students | 600 students | 5 | 4 ^h | 12 | 0.7 |
| High School (9-12) | 28 ^g | 2.9 | 1,600 students | 1.8 acres per 100 students | 0.6 acres per 100 students | 60 students | 0 | -- ^f | 28 | 1.5 |
| Other ⁱ | 25 | 2.6 | 5,160 persons | 4.8 acres per 1,000 persons | 7 acres per 1,000 persons | 5,540 persons | 39 | 39 | 64 | 3.6 |
| Public Outdoor Recreation Community In Park Sites | 31 | 3.3 | 5,160 persons | 6.0 acres per 1,000 persons | 2.2 acres per 1,000 persons | 5,540 persons | 12 | -- ^f | 31 | 1.7 |
| In High School Sites | 66 ^j | 6.9 | 5,160 persons | 12.8 acres per 1,000 persons | 0.9 acres per 1,000 persons | 5,540 persons | 5 | -- ^f | 66 | 3.7 |
| Neighborhood In Park Sites | 38 | 4.0 | 5,160 persons | 7.4 acres per 1,000 persons | 1.7 acres per 1,000 persons | 5,540 persons | 9 | 9 ^k | 47 | 2.6 |
| In Elementary School Sites | 16 ⁱ | 1.7 | 5,160 persons | 3.1 acres per 1,000 persons | 1.6 acres per 1,000 persons | 5,540 persons | 9 | 1 | 17 | 0.9 |
| Total ^l | 950 | 100.0 | -- | -- | -- | -- | 890 | 856 | 1,806 | 100.0 |

^a Gross areas include the acreage in street rights-of-way and off-street parking. Gross acre values were derived by adding an additional 9 acres, or 10 percent, to the governmental and institutional category; 15 acres, or 10 percent, to the public outdoor recreation category; 6 acres, or 15 percent, to the commercial categories; 13 acres, or 15 percent, to the manufacturing and wholesale category; and 97 acres, or 20 percent, to the residential category.

^b SEWRPC estimates.

^c These figures are based on the Village of Hartland delineated retail trade area.

^d These figures are based on the estimated population within the delineated retail trade area.

^e These figures are based on forecast population for the delineated retail trade area.

^f The 1979 acreage for this use category exceeds the requirements of the forecast population.

^g These figures are for the portions of school sites developed in buildings, off-street parking and drives, and associated yard areas.

^h Due to existing elementary school enrollment capacity able to accommodate 150 additional students, this acreage requirement is based on the need to provide facilities for an additional 450 students.

ⁱ This category includes churches, cemeteries, hospitals, village halls, post offices, and police and fire stations.

^j These figures are for the portions of school sites devoted to active and passive recreational facilities and open space.

^k This acreage is required by location criteria rather than by acres per persons criteria.

^l Totals do not include the acreages devoted to railroads, utilities, and quarrying, or land under development.

Source: SEWRPC.

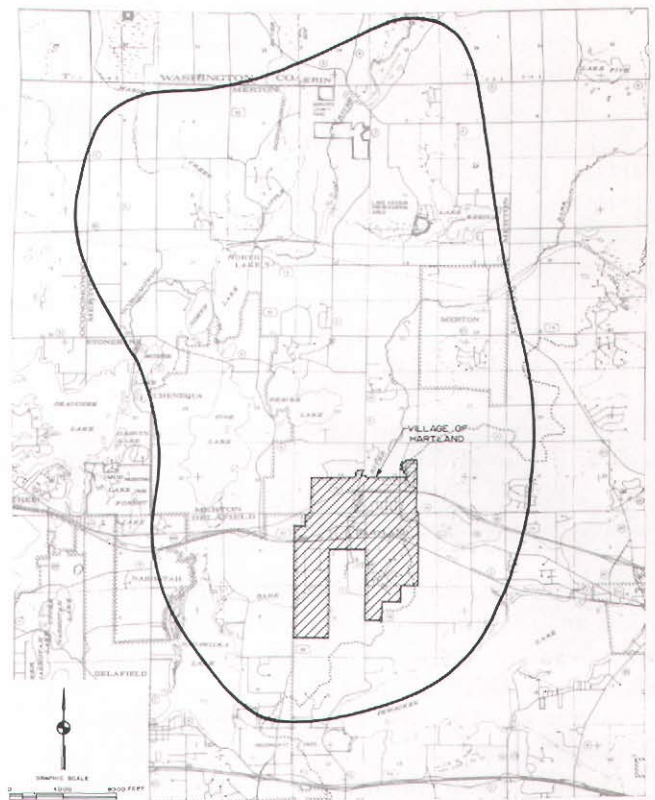
Map 25

VILLAGE OF HARTLAND
RETAIL TRADE AREA: 2000

table also indicates that no additional community retail commercial acreage will be required during this same period. These acreage requirements were determined by applying the standards for neighborhood retail and community retail land uses described in Chapter III to the year 2000 forecast population for the Village of Hartland retail trade area. The Village's retail trade area, as shown on Map 25, identifies the area where most of the resident population may be expected to do their shopping for convenience goods and services and for certain comparison goods within the Village during the planning period. The area was defined on the basis of consideration of the distances to other potentially competing commercial facilities and the relative size of the competing facilities.

Once the retail trade area was defined, quarter-section population forecasts for the year 2000 were compiled for the area. Application of the neighborhood retail and community retail land use standards to the forecast retail trade area population generated the amount of commercial land required in the trade area in both categories by the year 2000. These figures were then compared with existing neighborhood and community retail land use acreages to determine whether or not additional land may be required in these categories during the planning period. As previously indicated, approximately 10 additional acres of neighborhood retail development would be required in the Village by the end of the planning period. The site area standard set forth under Objective No. 3 in Chapter III indicates that this required acreage should be developed as two new neighborhood retail centers, which would serve areas planned for additional residential development over the planning period.

As shown in Table 23, no additional community retail commercial acreage is required in the village sewer service area during the planning period. However, as indicated in Chapter II, additional comparison goods shopping facilities may be desirable in the Village, particularly in the central business district where some properties are not developed to their full commercial potential. As set forth under Objective No. 9 in Chapter III, rather than designating new outlying areas of the Village for community level comparison goods shopping facilities, emphasis should be placed on redeveloping and expanding community level shopping facilities in selected areas of the central business district where existing marginal commercial development or vacant land exists. It should also be pointed out



Source: SEWRPC.

that redevelopment in the downtown should not be planned in any effort to make the downtown directly competitive with new shopping center developments by attempting to attract a junior department store, the typical "anchor" store in most of the newer community level shopping centers. Department store chains and similar retailers generally desire to locate stores on large, vacant sites, consisting of 15 to 25 acres, immediately adjacent to a high traffic volume regional highway. Hartland simply does not have such a site in its downtown area.

There are limits to the amount of commercial development that can be supported by a given population. In the case of Hartland, if additional commercial land uses, beyond the acreages set forth above, are permitted to develop in outlying areas of the Village, the commercial viability of the downtown may be seriously threatened, since

local retailers and the commercial market in general would likely gravitate to the outlying commercial areas. Under such circumstances, new outlying commercial development would act as a "syphon," pulling existing commercial establishments out of the downtown, thus creating vacant stores and physical blight. It is, therefore, important to recognize that if the Village wants to strengthen the commercial viability of downtown by undertaking projects to upgrade and intensify commercial facilities, it must also work to protect and improve the retail market associated with the downtown. This can be accomplished, in part, by encouraging new development downtown and by limiting the amount of new outlying commercial development based upon the identified commercial land use requirements over the planning period.

The residents of the Village have ready access to such regional shopping facilities as Brookfield Square over the regional freeway system. Therefore, no such facilities are required in the Village.

Table 23 indicates that there may be a requirement for an additional 189 acres of manufacturing and wholesaling development over the planning period. Most of this additional development could be directed to the 160-acre tract already zoned for manufacturing use, located adjacent to the southern edge of the Hartland Industrial Park. Another appropriate location for manufacturing and wholesaling development would be the vacant site located between the eastern edge of the industrial park and Maple Avenue (CTH E). From an urban structure point of view, both sites are desirable for development of additional manufacturing and wholesaling development because such development could then continue to be concentrated in the southwest corner of the village sewer service area. Furthermore, these sites are located in proximity to STH 83, a major regional arterial highway; are relatively isolated from residential areas; and could be readily provided with public sanitary sewer service.

TRANSPORTATION REQUIREMENTS

The arterial street and highway system required to serve the probable future traffic demands within the study area is shown on Map 26. This system is largely based upon the adopted regional transportation system plan and certain of the right-of-way designations, as set forth on the Established Street and Highway Width Map for Waukesha County. The system generally maintains the exist-

ing arterial street pattern in the area, with the exception of the proposed extension of CTH KE west to STH 83, the proposed relocation of CTH KE between CTH K and CTH EF in the northeast corner of the study area, and the proposed relocation of two portions of STH 83, including a one-mile-long portion immediately north of Nagawaukee Park and the portion immediately north of USH 16.

The arterial street rights-of-way and improvements recommended for the village proper reflect ultimate street rights-of-way and improvement requirements. This is due to the difficulties and added expense typically associated with the acquisition of additional land for arterial street rights-of-way purposes subsequent to the establishment of adjacent urban development. Therefore, the recommendations set forth on Map 26 are intended to be used as a guide for the acquisition of right-of-way lands during the land development approval process. Also, it should be noted that the arterial street improvements recommended for the village proper are urban cross-sections—i.e., street pavements provided with curb and gutter improvements. Arterial street and highway improvements recommended for the portion of the study area outside the village proper are rural cross-sections—i.e., culvert drainage and gravel road shoulders.

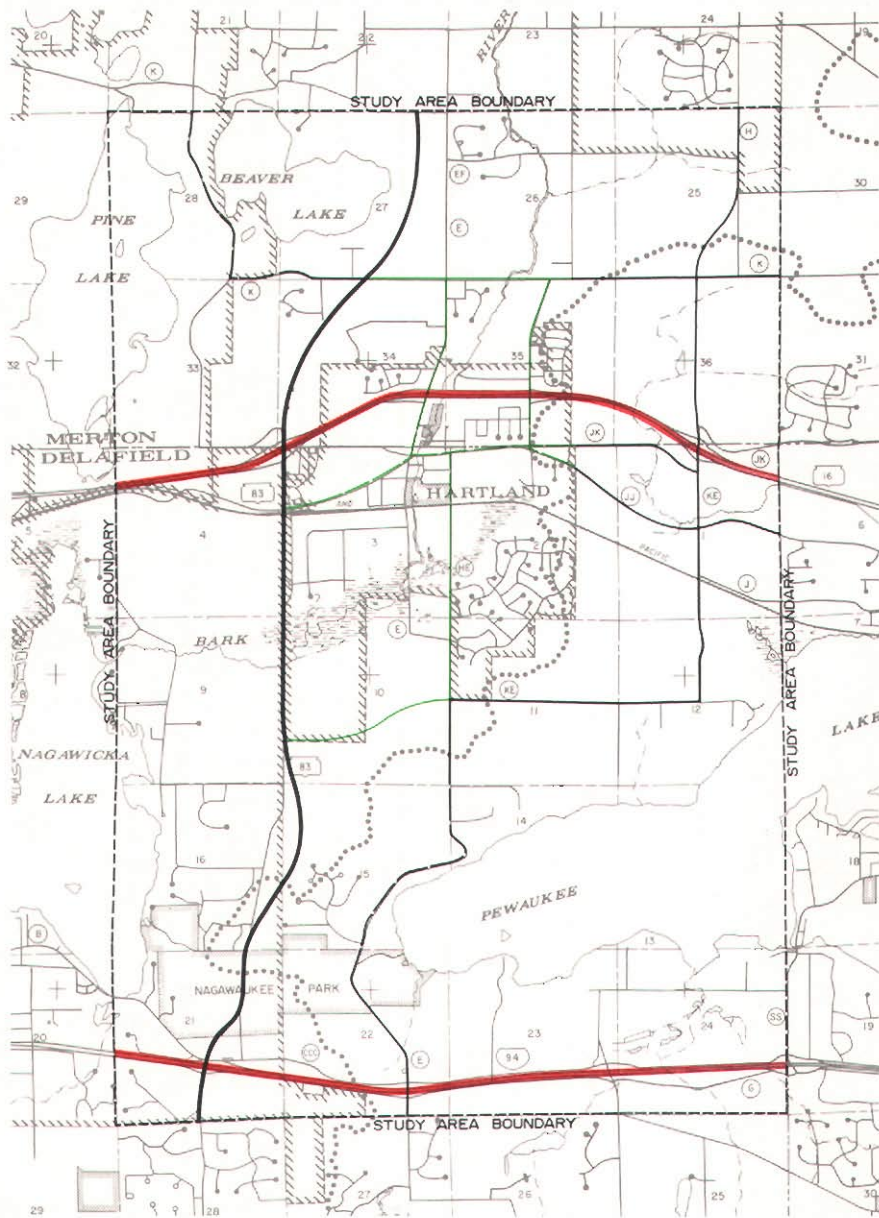
COMMUNITY FACILITY REQUIREMENTS

Education

Table 24 provides public school enrollment forecasts—ages 5 through 13—for each of the elementary school districts in the study area. As indicated in the table, it is anticipated that total enrollments in each of the listed districts will increase during the planning period. However, it is expected that the Hartland Elementary School District will receive a larger proportion of elementary school age population growth during the planning period than the other districts. If the Hartland school district boundaries remain unchanged over the planning period, and if the total population increases in the area as forecast, the District's elementary school enrollment could be expected to reach 900 by the year 1980; 1,040 by the year 1990; and 1,450 by the year 2000. As further indicated in Table 24, the Swallow, Lakeside, and Bark River school districts are also expected to experience substantial school population growth over the planning period. This growth would largely result from continued urban residential development in the northern and southern fringe areas of the Village.

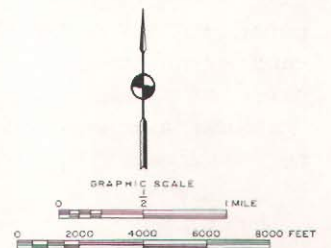
Map 26

RECOMMENDED ARTERIAL STREET AND HIGHWAY SYSTEM
FOR THE VILLAGE OF HARTLAND STUDY AREA: 2000



LEGEND

| TYPICAL CROSS-SECTION | RIGHT-OF-WAY WIDTH | PAVEMENT WIDTH |
|--------------------------------------|--------------------|----------------|
| DESIRABLE FOUR-LANE FREEWAY (RURAL) | 260 FEET | 48 FEET |
| DESIRABLE FOUR-LANE ARTERIAL (RURAL) | 150 FEET | 48 FEET |
| DESIRABLE TWO-LANE ARTERIAL (RURAL) | 100 FEET | 24 FEET |
| MINIMUM TWO-LANE ARTERIAL (RURAL) | 66 FEET | 22 FEET |
| DESIRABLE TWO-LANE ARTERIAL (URBAN) | 100 FEET | 48 FEET |
| MINIMUM TWO-LANE ARTERIAL (URBAN) | 66 FEET | 44 FEET |



Source: SEWRPC.

Table 24

**ACTUAL AND FORECAST PUBLIC ELEMENTARY SCHOOL ENROLLMENTS FOR
SCHOOL DISTRICTS WITHIN THE VILLAGE OF HARTLAND STUDY AREA: 1970-2000^a**

| School District | Number of Students Ages 5-13 (grades K-8) | | | | | | | |
|-----------------|---|------------------|---------------------|------------------|--------|------------------|--------|------------------|
| | 1970 | | 1980 | | 1990 | | 2000 | |
| | Number | Percent of Total | Number ^b | Percent of Total | Number | Percent of Total | Number | Percent of Total |
| Hartland . . . | 694 | 54.2 | 900 | 61.9 | 1,040 | 65.8 | 1,450 | 65.3 |
| Swallow . . . | 272 | 21.2 | 300 | 20.7 | 290 | 18.3 | 430 | 19.4 |
| Lakeside . . . | 157 | 12.3 | 116 | 8.0 | 110 | 7.0 | 160 | 7.2 |
| Bark River . . | 158 | 12.3 | 136 | 9.4 | 140 | 8.9 | 180 | 8.1 |
| Total | 1,281 | 100.0 | 1,452 | 100.0 | 1,580 | 100.0 | 2,220 | 100.0 |

^a 1979-1980 nonpublic elementary school enrollment in all elementary school districts within the boundaries of the Arrowhead Union High School District consisted of 374 students, or about 20.5 percent of the total elementary school age population of 1,826. Therefore, assuming that this percentage of nonpublic elementary school enrollment will remain stable during the planning period, the above public elementary school enrollment forecasts represent 89 percent of the total elementary school age population for each elementary school district.

^b 1979-1980 enrollment figures as reported by each of the listed elementary school districts.

Source: SEWRPC.

Comparison of the student capacity of existing school buildings in the Hartland Elementary School District and in the surrounding elementary school districts with the forecast elementary school enrollments for each district indicates that the student capacity of facilities in these districts may be expected to be reached or exceeded by the year 2000. As indicated in Table 16, Hartland North Elementary School and Hartland South Elementary School have student capacities of 600 and 400, respectively. The public elementary school enrollment forecasts in Table 24 indicate that the capacity of these two existing buildings will be exceeded by about 450 students by the year 2000. Two basic alternatives were considered to meet this additional student growth. First, the establishment of a third elementary school site in the district was considered. The principal undeveloped areas located within the proposed sanitary sewer service area of the Village—the areas where medium-density urban development is likely to occur during the planning period—are generally located in proximity to existing elementary schools in the district or elementary schools in one of the other districts surrounding the Village. The inefficiencies associated with facility duplication and overlapping standard school service areas indicates that construction of a third elementary school would be unjustified unless substantial changes occurred in elementary school district boundaries and in the location of existing school buildings.

A second, more feasible alternative was considered which consisted of utilizing the existing school locations in Hartland to meet the forecast elementary school population during the planning period. Comparison of these existing school facilities against the school site area and site accessibility standards in Table 19 indicates that with a limited amount of building and site area expansion, these schools can accommodate the forecasted student population for the year 2000. While it is not within the scope of this report to set forth specific recommendations regarding the amount of building expansion required at one or both of the sites, or the manner in which building expansion is to be accomplished, certain site area requirements should be considered in conjunction with this second alternative.

As shown in Table 23, in 1979 there were a total of eight acres in public elementary school buildings and associated off-street parking, drives, and yard areas in the Village's sewer service area, a ratio of 0.9 acre per 100 students. The table also shows that the incremental forecast elementary school student enrollment is anticipated to be about 600 students over the planning period. However, as previously indicated, about 150 of these additional students can be accommodated by available capacity in the existing Hartland elementary schools. Therefore, capacity for only 450 additional elementary school students would be

required in the Village's sewer service area. Application of the development standard of 0.9 acre per 100 students to the 450 additional elementary school students indicates that about four acres in public elementary school buildings and associated off-street parking, drives, and yard areas would be required. Assuming a relatively even distribution of the incremental elementary school enrollment between the Hartland North and Hartland South Elementary Schools, about two acres of building site area should be provided at both schools.

The Hartland North Elementary School site consists of about 11 acres, approximately four acres under the elementary school site size standard of 15 acres. The six residential properties located adjacent to this site on the south comprise a total of approximately two acres, which would accommodate the additional building site area requirement. Implementation of the second alternative as discussed above would require that the school district maintain a program, at least on a long-term basis, of acquiring these properties as they become available for future building expansion purposes. Since Bark River Park is located adjacent to the existing site, no additional land would be required for active outdoor recreation space at the school during the planning period.

The Hartland South Elementary School site consists of about 13 acres, two acres under the elementary school site size standard. However, approximately six acres, or 40 percent, of the site consists of a deep kettle, the bottom of which is approximately 30 feet below the elevation of the existing school building. In its present condition, this site is not well suited for expansion of the existing building since the most likely remaining developable portion of the site, located immediately southwest of the existing building, which is now being used for off-street parking space and an outdoor recreation space for the school, would probably be used for the building expansion, owing to the orientation and location of the existing school building on the site. Therefore, a building expansion to the southwest would not leave adequate usable area for required active outdoor recreation space, particularly in view of the fact that the portion of the site taken up by the kettle is not well suited as an active outdoor recreation space. Consequently, expansion of the existing building as discussed above would require a minimum of six acres of additional site area. This acreage could be acquired from the vacant lands located immediately south of the existing site. If this additional

acreage were not acquired, filling of the kettle on the site would be required.

It should be noted that the existing Hartland South Elementary School building may be able to be expanded by constructing a new building wing, oriented perpendicular to and extending from the southeast side of the existing building. Such a building expansion would be constructed on the northwest rim of the kettle, located adjacent to the existing school building. However, this type of building expansion would probably require construction of a two-story building, which could have certain functional and energy use disadvantages and could destroy the natural resource values associated with the existing kettle. Therefore, a southeastern expansion of the building was not considered as a desirable expansion alternative.

Currently, there is some concern as to whether or not the small elementary school districts in the study area can individually provide the facilities necessary to meet anticipated increases in student population during the next 20 years. Consequently, recent discussions have taken place between elementary school district officials in the area regarding possible consolidation of two or more school districts in the area. It is not within the scope of this report to consider alternative administrative structures for the provision of elementary school education in the study area. However, regardless of administrative structure, from a land use point of view, the existing elementary schools within the Village should be encouraged to function as neighborhood serving facilities. Establishing new residential development within three-quarters of a mile to a mile of these elementary schools will foster the walk-to-school concept. Also, within a rapidly growing, urban community such as Hartland, elementary schools located within relatively compact urban residential areas can act as central meeting places for children and adults in the neighborhood. These desirable objectives can be met if the Village concentrates its efforts on maintaining and expanding its existing school facilities and sites.

As previously indicated, the Swallow, Lakeside, and Bark River Elementary School Districts enrollments are expected to increase substantially during the planning period. These elementary school districts will experience growth in enrollments generated by development within the delineated sewer service area of the Village. Comparison of forecast enrollments against the student capacities of existing facilities at these schools indicates that the

capacities of the Swallow and Bark River schools will be reached by the end of the planning period, thus indicating that building expansion may be required near the end of the planning period.

Table 25 shows the actual and forecast Arrowhead Union High School District enrollment by district component. As indicated in the table, the high school enrollment in the district is anticipated to slightly decrease over the planning period. Therefore, no additional high school facilities would be required in the study area over the planning period.

Recreation

SEWRPC Planning Report No. 27, A Regional Park and Open Space Plan for Southeastern Wisconsin: 2000, contains specific recommendations addressing the needs of the Village concerning the preservation of primary and secondary environmental corridors and prime agricultural lands, and the provision of resource-oriented and nonresource-oriented recreation sites and facilities. Recommendations in the regional park and open space plan which are pertinent to the Village include: the development of two new neighborhood park sites, one in the southern portion of the Village and one in the northern portion of the Village; and the development of a recreation corridor along the Bark River together with the preservation of primary environmental corridor lands directly associated with the Bark River. Since the date of adoption of the regional park and open space plan, the neighborhood park site recommended in the southern portion of the Village has been developed in the Hartridge Subdivision. Furthermore, it should be noted that the revised population forecasts for the village sewer service area are somewhat higher than the population forecasts used in the preparation of the regional park and open space plan; therefore, additional outdoor recreation land is required during the planning period beyond that recommended in the regional plan.

As shown in Table 23, in 1979 there was a total of 31 acres of community level recreation land in community park sites in the Village's sewer service area, a ratio of six acres per 1,000 persons. As further shown in Table 23, application of the development standard of 2.2 acres per 1,000 persons to the incremental forecast population of 5,540 persons indicates that about 12 gross acres of community parkland would be required in the sewer service area to accommodate incremental population growth. However, since the 1979 community park and development ratio greatly exceeds the community park development standard, no

additional community parkland would be needed in the Village's sewer service area over the planning period.

Community level recreation land in high school sites in the Village's sewer service area comprises about 66 acres, a ratio of 12.8 acres per 1,000 persons. Application of the development standard of 0.9 acre per 1,000 persons to the incremental forecast population of 5,540 persons indicates that about two gross acres of community level recreation land in high school sites would be needed to accommodate incremental population growth. However, since the 1979 development ratio for community level recreation land in high school sites greatly exceeds the development standard, no additional land in this category would be needed in the village sewer service area over the planning period.

Table 23 indicates that in 1979, there was a total of 38 acres of neighborhood level recreation land in neighborhood park sites, a ratio of 7.4 acres per 1,000 persons. Application of the neighborhood park site development standard of 1.7 acres per 1,000 persons to the incremental forecast population of 5,540 persons indicates that about nine gross acres of additional neighborhood parkland would be needed to accommodate the incremental population growth. Although the 1979 neighborhood parkland development ratio exceeds the neighborhood parkland development standard, application of the neighborhood park site accessibility standards, set forth in Chapter III, to the existing neighborhood park sites in the Village's sewer service area indicates that all nine acres of the incremental neighborhood parkland requirement should be provided to meet anticipated neighborhood park needs. The neighborhood park site accessibility standards also indicate that the additional required acreage in neighborhood park sites should be provided in two new sites, one located in the northeast corner of the planned sewer service area of the Village and one in the southern portion of the sewer service area.

Neighborhood level recreation land in elementary school sites in the Village's sewer service area in 1979 totaled 16 acres, a ratio of 3.1 acres per 1,000 persons. Application of the development standard of 1.6 acres per 1,000 persons to the incremental forecast population of 5,540 persons indicates that about nine gross acres of additional neighborhood level recreation land in elementary school sites will be required to meet the needs of the anticipated resident population in the Village's

Table 25

ACTUAL AND FORECAST ARROWHEAD UNION HIGH SCHOOL DISTRICT ENROLLMENT BY DISTRICT COMPONENTS: 1970-2000^a

| Component | Number of Students Ages 14-17 | | | | | | | |
|---------------------------------------|-------------------------------|------------------|--------|------------------|--------|------------------|--------|------------------|
| | 1970 | | 1980 | | 1990 | | 2000 | |
| | Number | Percent of Total | Number | Percent of Total | Number | Percent of Total | Number | Percent of Total |
| Hartland Sewer Service Area | 224 | 24.2 | 460 | 29.1 | 480 | 35.3 | 600 | 39.0 |
| Remainder of Study Area | 329 | 35.5 | 320 | 20.3 | 270 | 19.9 | 310 | 20.1 |
| Remainder of School District . . . | 373 | 40.3 | 800 | 50.6 | 610 | 44.8 | 630 | 40.9 |
| Total School District | 926 | 100.0 | 1,580 | 100.0 | 1,360 | 100.0 | 1,540 | 100.0 |

^a1979-1980 nonpublic high school enrollment in the Arrowhead Union High School District consisted of 86 students, or about 5 percent of the total high school age population in the district. Therefore, assuming that this percentage of nonpublic high school enrollment will remain stable during the planning period, the above forecasts represent 95 percent of the forecast high school age population for each component.

Source: SEWRPC.

sewer service area. Also, application of the development standard of 1.6 acres per 1,000 persons to the total forecast population indicates that a total of about 17 acres would be required to meet total future needs. Therefore, since neighborhood level recreation land in elementary school sites already totaled 16 acres in 1979, only one additional acre of land in this category would be required over the planning period.

As indicated in Table 23, no additional regional, multi-community, or community recreation land is required in the Village over the planning period. However, anticipated population growth in the Village will require additional recreational facility development on the Village's existing and planned park sites. The kind of facilities that should be provided in the Village's public outdoor recreation sites are listed by site type in Table 20.

One type of community park facility which is not provided in the Village and which warrants special consideration is a community swimming facility. Currently, a swimming beach is provided in the study area on Nagawicka Lake in Nagawaukee County Park, located approximately two and one-half miles south of the Village. This regionally oriented facility has a maximum service radius of approximately 10 miles, but is geographically

removed from the urbanizing area of the Village. Public outdoor recreation facility standards for local public swimming facilities indicate that community swimming facilities should have a maximum service radius of three miles, and are generally required once an urban population of 7,500 persons is reached. Application of these standards to the year 2000 forecast resident population of the Village of 10,700 persons and to the distance between the Village and the existing swimming beach in Nagawaukee County Park indicate that the Village could support a community swimming facility during the planning period, probably some time after 1990.

While it is recognized that no additional community parkland is required in the Village, the 35-acre abandoned gravel pit located off the southeast corner of the intersection of Hill Street and Palmer Drive offers outstanding potential for development as a community swimming facility and park. With limited site modifications, the northeast corner of the bottom of the pit could be improved as a swimming area. There would also be ample area on the site for additional active outdoor recreation facilities. Furthermore, the gradual slope along the extreme southern edge of the site could be improved as a winter sports area for sledding and tobogganing.

Public Buildings and Other Related Facilities

Fire station distribution is an important determinant of the quality of fire protection in a rapidly growing community such as Hartland. As previously indicated, the village population can be expected to reach 10,700 persons by the year 2000. Furthermore, it is likely that most of the Village's population growth during the planning period will occur in the northern and southern portions of the Village. The American Insurance Association has developed standards to determine the adequacy of community water systems for fire-fighting purposes, based on population size. According to these standards, a community of 10,700 persons needs a fire flow of 4,000 gallons per minute (gpm). Also a community of 10,700 persons would require approximately two pumper companies and one ladder company. Application of the fire company distribution standards for residential districts, as set forth under Objective No. 14, indicate that the optimum service radius, expressed in over-the-road miles, from an engineer-ladder company is one and one-half miles. The optimum service radius of the existing fire station in Hartland, as depicted on Map 27, is centrally located within the Village but does not cover existing residential areas in the extreme southeastern and southwestern fringes of the Village.

The existing fire station that serves the Village is located to the north of the CMStP&P railroad tracks. County Trunk Highways E and HE, the primary north-south roads to the southern portion of the Village, only have grade level crossings over the CMStP&P tracks. As previously discussed, these grade level crossings pose an immediate fire protection hazard for urban development located south of the tracks. Construction of the proposed CTH HE overpass, as previously described, would resolve the access problem to the southern portion of the Village. However, since substantial additional residential and high-value district manufacturing development is anticipated in the southern portion of the Village, a new fire station may be required south of the CMStP&P railroad tracks near the end of the planning period regardless of whether or not the new overpass is constructed.

CENTRAL BUSINESS DISTRICT REQUIREMENTS

Commercial Development

The central business district and the Hartbrook shopping center are the primary community retail shopping areas in the Village. As previously discussed in this chapter, no additional community

commercial retail acreage is required in the Village over the planning period. However, as previously indicated in Chapter II, it is physically possible and highly desirable to achieve a more intensively developed commercial retail shopping environment than that currently existing downtown.

The opportunity and necessity for downtown improvement was documented in a downtown plan for the Village prepared in 1974 by Redevelopment Services, Inc., Waukesha, Wisconsin, entitled A Commercial Development Action Guide for Hartland, Wisconsin. This study projected retail sales volumes, additional retail square footage requirements, and parking space requirements based upon an anticipated village population of about 10,000 persons. The study also recommended a series of redevelopment projects for the downtown and a general implementation strategy for achieving these projects.

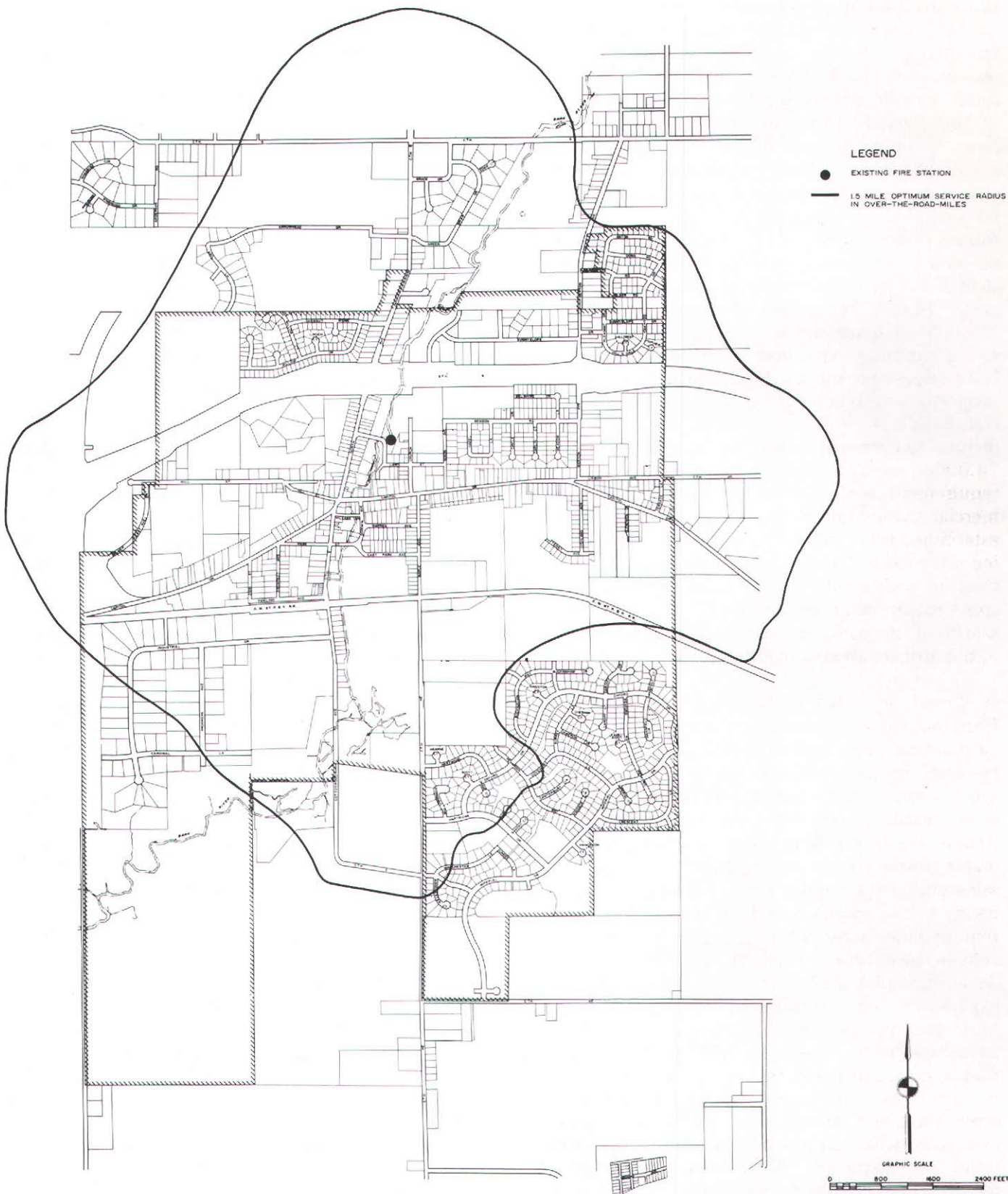
This action guide projected the need for 173,000 square feet of retail space in addition to the 110,000 square feet of retail space that was already provided downtown. The basic approach recommended in the action guide for accomplishing such a major increase in retail square footage consisted of phased redevelopment of most of the existing commercial properties downtown. The action guide also recommended that much of the new retail square footage be provided in new buildings constructed on a two-level-at-grade concept on properties adjacent to the Bark River.

The action guide discussed the natural amenity of the Bark River and the opportunities available to the Village in terms of putting the river environment to greater use as a means of enhancing the design and appearance of new retail shopping facilities. Also, the action guide recognized the unique identity and function of the downtown and the desirable interaction that takes place between its diverse land uses. Therefore, the action guide encouraged new downtown development and redevelopment rather than major new commercial development in outlying areas of the Village.

The extent of commercial redevelopment proposed in the action guide would require the extensive razing of existing structures in the central business district, together with the development of an almost totally new downtown. While some redevelopment in the downtown is required if it is to remain as a viable retail area and a center of community activity, it is also important that future redevelopment efforts downtown work to preserve,

Map 27

OPTIMUM SERVICE RADIUS OF THE EXISTING FIRE STATION IN THE VILLAGE OF HARTLAND: 1979



Source: SEWRPC.

as much as possible, its mature architecture and unique physical character.

Currently, the downtown area consists of approximately 12 net acres of developed and undeveloped commercial area. A desirable ratio of off-street parking/circulation space to first-floor commercial retail space in downtown areas is 2:1. Application of this standard to the existing extent of developable commercial area downtown indicates that a total of approximately four acres, or 174,000 square feet, of first-floor commercial space could be provided. Currently, there is about 110,000 square feet of commercial retail space downtown, of which approximately 10,000 square feet consists of nonfirst-floor commercial space. Therefore, about 74,000 square feet of additional first-floor commercial space can be provided without extensive geographic expansion of the downtown area. In-fill development on underutilized commercial properties containing structurally sound commercial buildings can accommodate additional commercial space needs downtown. In addition to the 74,000-square-foot first-floor commercial space requirement some additional nonfirst-floor commercial space could also be provided. However, the established small village character and scale of existing downtown development indicates that no more than an additional 15 percent of the commercial space requirement, or about 11,000 square feet of nonfirst-floor commercial space, should be provided in the downtown area over the planning period.

It should be noted that, historically, downtown Hartland has been dominated by the presence of automobile sales and service facilities. Years ago, the site area requirements for such facilities were much smaller than what they are today. Currently, auto retailing practice generally dictates that dealers locate on large, highly visible sites along major arterial streets and highways. Generally, auto sales businesses require sites of five acres or more owing to the emphasis on high volume sales, which require large areas where dealers can store large vehicle inventories. Consequently, the old auto dealerships that are located on relatively small sites experience some difficulty in conducting their businesses and generally are at a competitive disadvantage with dealers located on large, highly visible sites. Furthermore, the highway orientation of auto sales is not compatible with the pedestrian orientation and store-to-store interaction typically associated with convenience and comparison goods retail establishments downtown. The relatively large areas taken up by auto dealers in buildings

and auto display and storage areas creates "voids" in the pedestrian-oriented retail shopping environment downtown.

The full retail market potential and overall economic vitality of the downtown could be enhanced if the Village were committed, on a long-term basis, to replacing the auto dealerships downtown with additional convenience and community retail commercial development. As previously stated, any future commercial redevelopment activities in the downtown should focus on the establishment of conventional convenience and comparison goods establishments, specialty shops, professional offices, and local institutional and governmental facilities.

The Bark River is a natural resource asset that has not been fully exploited in the development of the retail shopping environment downtown. In fact, as is the case with most older downtowns which were founded around the turn of the century, buildings in downtown Hartland were originally oriented with their rear elevations facing the river, thus directing traffic and pedestrian activity away from the river and blocking the view of the river. Future redevelopment efforts involving property adjacent or near the river should seek to increase the visibility of, and pedestrian access to, the Bark River.

Parking

As indicated in Chapter II, there are approximately 100 on-street parking spaces and 405 off-street parking spaces in the downtown area for a total of 505 spaces. Owing to the fact that many off-street parking areas are hidden from view from streets, are not clearly designated, and are lacking improvements necessary for orderly off-street parking, approximately 115 of the existing off-street parking spaces are rendered virtually ineffective in meeting the overall downtown parking space needs. Also, approximately 35 of the 100 existing on-street parking spaces in the downtown area located more than 200 feet from the delineated primary and secondary areas of commercial activity, thus making these spaces virtually ineffective in meeting parking demand. Therefore, only about 365 of the 505 existing on- and off-street parking spaces located downtown are adequately serving parking space needs. Application of the downtown parking standard set forth in Chapter III of four spaces for each 1,000 square feet of commercial retail space to the existing 110,000 square feet of commercial retail space downtown indicates that a minimum of approximately 440 parking spaces are currently required downtown. Compari-

son of this requirement against the 355 spaces that adequately meet downtown parking space standards indicates that approximately 85 additional spaces are currently required downtown.

If an additional 74,000 square feet of commercial retail space is established in the downtown during the planning period as previously set forth, an additional 296 parking spaces will be required in the downtown. This additional parking space requirement, together with the existing 85-parking-space deficiency previously identified, indicates that the Village may need a total of 381 additional parking spaces over the planning period. However, it should be noted that as new commercial development occurs downtown, the primary and secondary areas of commercial activity can be expected to increase in size. Therefore, it is likely that some of the existing parking spaces which currently do not meet the parking space location standard would meet the standard in the future and would help meet the parking space requirement.

Circulation

The primary traffic circulation problem in the downtown area is the traffic hazard created by the intersection of Hill Street, North Avenue, E. Capitol Drive, Village Drive, Cottonwood Avenue, and W. Capitol Drive. The improvement of this intersection to a conventional four-way intersection would be the most direct method of resolving the traffic confusion and visibility problems at the intersection. After generally reviewing the traffic functions of each of the streets that converge at this intersection, it was determined that Hill Street, Village Drive, and Cottonwood Avenue function as land access streets, and that North Avenue,

E. Capitol Drive, and W. Capitol Drive function as arterial streets. These street functions are important in considering the manner in which the design of the intersection might be organized. Since the arterial streets associated with this intersection carry relatively high traffic volumes and provide subregional road system continuity, they should continue to accommodate through traffic and therefore remain as integral parts of the intersection design. Conversely, the local streets associated with this intersection are less significant than the arterial streets, thus making it possible for these streets to be modified.

Based on the foregoing analysis, it was determined that the four streets that should be retained in a conventional four-way intersection would be North Avenue, W. Capitol Drive, E. Capitol Drive, and Hill Street. It was further determined that since only the Super Valu food store takes its principal access from Village Drive, it is possible that Village Drive may be vacated totally or in part, thus providing the possibility of eliminating the street from the intersection. Such a street vacation could make additional area available for off-street parking in front of the Super Valu food store. Obviously, the elimination of Village Drive would necessitate the provision of a new access to the Super Valu food store. Furthermore, it should be noted that if Village Drive were vacated, the conventional four-way intersection design described above could be accomplished by relocating the intersection of Cottonwood Avenue and W. Capitol Drive, providing a new right-angle T-intersection approximately 75 feet southwest of the existing intersection.

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Chapter V

THE LAND USE PLAN

INTRODUCTION

The land use plan presented herein is intended to provide guidelines for making land use development and redevelopment decisions in the Village of Hartland. The plan, as presented, is intended to constitute a major element of a comprehensive plan for the physical development of the Village. Also, the recommended plan represents a refinement of the adopted regional land use plan, as required to meet local as well as areawide land use development objectives.

The regional land use plan and the herein recommended village land use plan as well, while recognizing the effects and importance of the urban land market in shaping land use patterns, seeks to influence the operation of that market in three ways in order to achieve a more healthful and attractive, as well as a more efficient, settlement pattern. First, these plans recommend that development trends be altered by encouraging intensive urban development only in those areas which are covered by soils suitable for such development, which are not subject to special hazards such as flooding, and which can be readily served by essential municipal facilities and services, such as centralized public sanitary sewerage and water supply services. Second, these plans recommend that existing development trends be altered by discouraging intensive and incompatible urban development in delineated environmental corridors. Third, these plans recommend that existing development trends be altered by retaining in agricultural use the most productive farmlands.

The recommended plan presented here represents only one of many possible alternative patterns of land use development that could accommodate the future physical, social, and economic needs of the residents of the study area. The formulation of this plan involved the consideration of several alternative land use patterns and supporting community facility and utility proposals against the land use development objectives, principles, and standards described in Chapter III of this report. It should be recognized that while the recommended land use plan is intended to be adopted as the official expression of the land use development policy of

the Village, the plan should not be considered as a rigid, inflexible mold to which land use development must conform. The plan is intended to constitute a point of departure for making day-to-day development decisions, and if any given development proposal can be demonstrated to better meet the adopted community and areawide objectives, then the plan itself should be amended to accommodate that development proposal. Such amendment, however, should be made only after careful consideration of each alternative involved.

General as well as specific land use development recommendations are reflected in the recommended land use plan. Therefore, the plan provides village officials with a substantial margin of flexibility regarding the manner in which the plan can be used in guiding land use development. For example, the plan contains relatively detailed recommendations regarding the nature and extent of future central business district development, but a relatively general level of guidance regarding the provision of neighborhood park sites and neighborhood commercial areas. The plan should thus be considered as a framework within which specific land use development proposals can be prepared and evaluated.

The following description of the land use plan is divided into three sections. The first section describes the overall land use plan for the Village of Hartland study area, which includes the existing urban area of the Village and its environs. It is anticipated that the areas surrounding the Village included in the plan will affect and be affected by urban development in the Village during the planning period. The second section more specifically describes recommended land use development for areas within the Village of Hartland sewer service area. The third section still more specifically describes recommended development and redevelopment in the central business district of the Village.

DESCRIPTION OF THE RECOMMENDED STUDY AREA LAND USE PLAN

The recommended land use plan for the Village of Hartland study area is shown on Map 28 and is

quantified in Table 26. The total urban area shown on Map 28, consisting of both existing and proposed urban land uses, totals about 6,434 acres. The plan proposes to accommodate anticipated incremental growth in population and employment in the study area over the 20-year design period from 1979-2000 through the conversion of approximately 1,721 acres of land from rural to urban use, thus increasing urban land use in the area by 36.5 percent. The plan map indicates both those areas within the total study area in which urban development now exists, and those areas in which such development may be permitted in accordance with the land use development objectives, principles, and standards in Chapter III.

Residential Development

The residential areas shown on plan Map 28 include both existing and proposed residential uses and total about 3,987 acres, as indicated in Table 26. The plan recommends the conversion of about 1,170 acres of land to residential use during the planning period, thus increasing residential land use in the area by about 42 percent. Full development of the residential areas shown on the plan map is assumed by the end of the planning period. The residential acreage required to support the forecast year 2000 resident population of the study area was determined by applying the standards set forth in Table 18.

The areas shown in yellow on the plan map indicate areas recommended for suburban residential development on two- to five-acre lots with resulting densities ranging from 0.2 to 0.6 dwelling unit per net residential acre. Suburban development, as shown on plan Map 28, would total nearly 800 acres and is generally located along the western edge of the study area. The amount of new suburban development recommended in the study area over the planning period consists of small areas of infill development, totaling about 130 acres.

The areas shown in yellow with orange stripes on the plan map indicate low-density urban development on 20,000-square-foot to two-acre lots, with resulting densities ranging from 0.7 to 2.2 dwelling units per net residential acre. It should be noted that the amount of additional land recommended for low-density residential development, totaling about 500 acres as shown on the plan map, is based on the assumption that 66 percent of the population growth forecast for the portion of the study area located outside the village sanitary sewer service area will occur at a density of about

1.0 dwelling unit per net residential acre (one-acre lots). The remaining one-third of the additional population growth is assumed to be accommodated in rural development on five-acre or larger lots at a density of less than 0.2 dwelling unit per net residential acre. Rural development would occur in the areas shown in white on the plan map.

The areas shown in orange on the plan map are intended to consist primarily of medium-density urban development on lots from 6,000 to 20,000 square feet in size, with resulting densities ranging from 2.3 to 6.9 dwelling units per net residential acre. However, it should be noted that for the sake of generalization, these areas also include small areas of high-density multiple-family development on lots with 2,500 to 6,000 square feet of lot area per dwelling unit, with densities ranging from 7.0 to 17.0 dwelling units per net residential acre, as well as areas of governmental, institutional, and recreational land uses. More specific recommendations pertaining to the location and extent of medium- and high-density development are described in the following discussion of the recommended land use plan for the Village of Hartland sewer service area. Medium-density development, as shown on the plan map, totals approximately 1,200 acres, of which about 540 acres would consist of proposed new development. Medium-density residential development constitutes the majority of the land area within the delineated sanitary sewer service area of the village proper.

Commercial and Industrial Development

The areas shown in red on the plan map identify neighborhood and community retail business areas. The principal retail business areas shown on the plan map consist of the central business district of the Village, Hartbrook Mall, and existing and planned commercial development in the vicinity of the intersection of STH 83 and IH 94, and total about 117 acres. The principal area of industrial development in the study area is shown in gray and is located in the southwest corner of the Village of Hartland. This industrial area totals approximately 483 acres.

Transportation System Development

An efficient arterial street and highway network provides the necessary means of access from both rural and urban areas to supporting service, employment, and recreation areas in the Hartland area. It is essential, therefore, that land use development be designed so as to maintain and preserve the maximum efficiency of the arterial street and highway system in the study area. Transportation

Table 26

EXISTING AND RECOMMENDED LAND USE IN THE VILLAGE OF HARTLAND STUDY AREA: 1979 AND 2000

| Land Use Category | Existing Land Use 1979 | | | Plan Increment 1979-2000 | | Recommended Land Use 2000 | | |
|--|------------------------|---------------------|------------------|--------------------------|----------------|---------------------------|---------------------|------------------|
| | Net Acres | Percent of Subtotal | Percent of Total | Net Acres | Percent Change | Net Acres | Percent of Subtotal | Percent of Total |
| Urban | | | | | | | | |
| Residential ^a | 2,819.4 | 59.8 | 18.1 | 1,169.2 ^e | 41.5 | 3,988.6 | 62.0 | 25.5 |
| Commercial ^b | 76.1 | 1.6 | 0.5 | 40.5 | 53.2 | 116.6 | 1.8 | 0.7 |
| Manufacturing and Wholesale ^c | 213.0 | 4.5 | 1.4 | 270.0 | 1.3 | 483.0 | 7.5 | 3.1 |
| Transportation and Utilities | 861.9 | 18.3 | 5.5 | 206.0 ^f | 23.9 | 1,067.9 | 16.6 | 6.8 |
| Recreational ^d | 742.5 | 15.8 | 4.7 | 35.0 | 4.7 | 777.5 | 12.1 | 5.0 |
| Urban Subtotal | 4,712.9 | 100.0 | 30.2 | 1,720.7 | 36.5 | 6,433.6 | 100.0 | 41.1 |
| Rural | | | | | | | | |
| Surface Water, Wetlands, and Woodlands | 4,651.9 | 42.7 | 29.8 | - 40.0 | - 0.9 | 4,611.9 | 50.2 | 29.5 |
| Agricultural, Unused Lands, and Other Open Lands | 6,249.7 | 57.3 | 40.0 | - 1,680.7 | - 26.9 | 4,569.0 | 49.8 | 29.4 |
| Rural Subtotal | 10,901.6 | 100.0 | 69.8 | - 1,720.7 | - 15.8 | 9,180.9 | 100.0 | 58.9 |
| Total | 15,614.5 | -- | 100.0 | -- | -- | 15,614.5 | -- | 100.0 |

^a This category includes residential, governmental, institutional, and local outdoor recreational land use acreage, and also 370.8 acres of vacant residential land.

^b This category also includes two acres of vacant commercial land.

^c This category includes light and heavy industrial and quarrying land use acreage, and 54 acres of vacant industrial land.

^d This category includes major public and private outdoor recreation sites.

^e This figure does not include farmsteads and estate residential development on lots five acres or larger in size.

^f This figure is based on the assumption that 15 percent of the study area will be constituted of transportation and utility land use acreage by the year 2000.

Source: SEWRPC.

system plans should also work to minimize street and highway improvement costs as well as the level of disruption new transportation improvements may cause to existing development.

In keeping with these basic criteria, the recommended transportation system plan for the study area generally consists of the existing arterial street and highway network, with one exception: the extension of CTH KE between CTH HE and STH 83. This addition to the arterial street and highway network for the study area is recommended in the adopted regional transportation system plan.

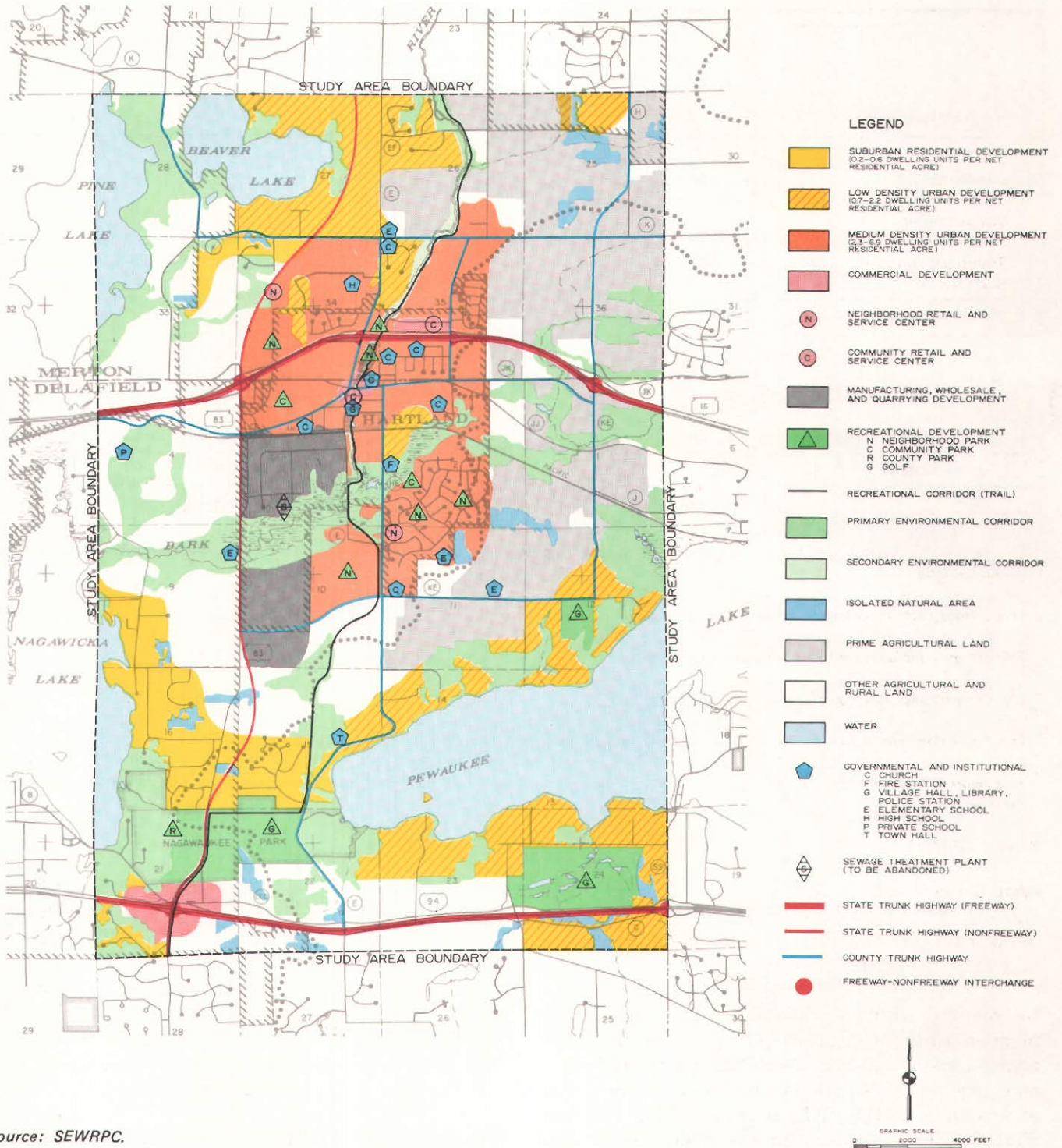
The regional transportation system plan also indicates that the study area is outside the area recom-

mended to be served by urban mass transit during the next 20 years. The plan, however, recommends that a park-and-pool lot be provided at the intersection of STH 83 and IH 94. As shown on Map 28, this recommended park-and-pool lot is included as a part of the recommended transportation plan for the study area. Table 26 indicates that transportation and utilities land use totals about 1,068 acres in the land use plan for the study area.

Recreational Development

The park and related open space uses shown on the plan map are generally based upon the recommendations contained in SEWRPC Planning Report No. 27, A Regional Park and Open Space Plan for Southeastern Wisconsin: 2000. Recommendations concerning the preservation of primary environ-

RECOMMENDED LAND USE PLAN FOR THE VILLAGE OF HARTLAND STUDY AREA: 2000



Source: SEWRPC.

mental corridors, secondary environmental corridors, and isolated natural areas, as set forth in that plan, have been described above. As indicated on the plan map, the principal outdoor recreation site in the study area would continue to be Nagawaukee Park. Other noteworthy recommended park and open space uses in the study area include a proposed community park and swimming facility on the abandoned gravel pit site located along Palmer Drive at the western edge of the Village of Hartland, and a recommended recreational trail system that would extend to the north, east, and west from Nagawaukee Park. As shown in Table 26, recreational facilities in the study area total about 780 acres. Recommendations concerning community and neighborhood park sites are set forth in the description of the recommended land use plan for the village proper in a subsequent section of this report.

Rural Land

As indicated in Table 26, rural land uses in the study area may be divided into two general categories: surface water, wetland, and woodland areas; and agricultural, unused, and other open lands. The table shows that surface water, wetland, and woodland areas totaling approximately 4,612 acres, and agricultural, unused, and other open lands constituting an additional 4,569 acres, would, under the recommended land use plan, be maintained in the study area. Surface water, wetlands, and woodland areas are principal elements of primary and secondary environmental corridors. As discussed in Chapter II, the importance of preserving and protecting prime agricultural lands and environmental corridors necessitates that the land use plan identify the means whereby preservation can be accomplished during the planning period. Therefore, the land use plan contained herein specifically addresses those rural lands which are delineated as either prime agricultural land or environmental corridor lands.

Prime Agricultural Land

Prime agricultural lands, as shown on the recommended plan map, comprise a total of approximately 2,485 acres and are shown in light brown on the plan map. These lands generally consist of land ownerships 35 acres or larger in size, on soils which are potentially well suited for the production of food and fiber. These lands should be encouraged to be retained in agricultural use during the planning period. The area shown in white on the plan map—composed of general agricultural lands—is also intended to remain in agricultural use. However, portions of this area could be used for residential development at a density

of 0.2 dwelling unit or less per net acre (five acre or larger lot sizes) based on the suitability of soils for such development. The most important site-specific factors related to the establishment of such development are soil limitations for the use of onsite sewage disposal systems. Existing soil conditions may limit the location of septic systems on individual lots.

Environmental Corridors

Primary and secondary environmental corridors and isolated natural areas are shown in dark green, medium green, and light green, respectively, on plan Map 28. Primary environmental corridors should be considered inviolate and should be kept in essentially natural, open uses. Secondary environmental corridors do not contain natural resource values to the same extent as the primary environmental corridors. However, because of their proximity to primary environmental corridor lands and because of the continuity they may provide to separate segments of primary environmental corridors, these secondary environmental corridor lands should be seriously considered for preservation in essentially natural, open uses as development proceeds within the study area. Secondary environmental corridor lands should be considered for preservation in conjunction with the provision of greenways, drainageways and storm water detention and retention areas. Isolated natural areas consist of small areas with high natural resource value, which are separated geographically from primary and secondary environmental corridors. While these areas may not be of prime importance from a natural resource conservation point of view, they provide a sense of natural diversity in areas which are removed from primary and secondary corridor lands. In urbanizing portions of the study area, isolated natural areas offer potential as local park sites. Also, special measures could be taken during the design and construction processes associated with new urban development to ensure that such areas are preserved as an integral and valuable part of the total site plan of such developments. As delineated on the recommended plan map, primary and secondary environmental corridors and isolated natural areas within the study area include approximately 4,835 acres, 65 acres, and 215 acres, respectively.

RECOMMENDED LAND USE PLAN FOR THE VILLAGE OF HARTLAND SEWER SERVICE AREA

As discussed in the inventory and analysis in Chapter II of this report, two alternative population forecasts were considered for use in defining

the year 2000 urban land use and community facility requirements within the recommended sanitary sewer service area of the Village. The initial year 2000 population forecast for the Village of Hartland sanitary sewer service area was 7,100 persons. This figure was used in the adopted 2000 regional land use and transportation plan. The second year 2000 population forecast was 10,700 persons in the Village's sanitary sewer service area as set forth in the facility plan for the new Dela-Hart sewage treatment plant. Land use and community facilities requirements were determined for both population forecasts, and two alternative land use plans reflecting these requirements were proposed.

The Village Plan Commission reviewed these alternative plans and determined that the alternative plan based upon the year 2000 population forecast of 10,700 persons more realistically reflected the physical development objectives and established growth trends of the Village. The Plan Commission also considered this alternative to be most appropriate since it was their opinion that the village land use plan should be consistent with the facility plan previously prepared by the Dela-Hart Water Pollution Control Commission. Subsequently, the Village Plan Commission reviewed the specific recommendations contained in the selected alternative plan and, with the assistance and guidance of the Commission staff, made certain refinements and modifications to the plan prior to its being formally presented at a public informational meeting and hearing held by the Village Plan Commission. Since the Village Plan Commission reached a consensus regarding the 2000 forecast population level upon which the land use plan would be structured, as well as the basic physical development objectives which should be reflected in the plan, the recommended land use plan for the Village described herein is based upon the 10,700 population forecast.

The recommended land use plan for the Village of Hartland sewer service area is shown on plan Map 29 and quantitatively summarized in Table 27. The recommended plan, in defining the proposed extent of urban development, is intended to represent a refinement of the previously delineated sanitary sewer service area for the Village as set forth in the adopted regional water quality management plan. The recommended pattern of urban development shown on the plan map is intended to encourage compact urban development in areas which can be readily served by gravity-flow sanitary sewers. The map indicates both those portions

of the village proper in which urban development now exists and those portions in which additional urban development can be permitted in accordance with the herein-recommended land use development objectives, principles, and standards.

Residential Development

Areas recommended for low-density single-family residential development, medium-density single-family residential development, two-family residential development, and multi-family residential development are shown on Map 29 in yellow, orange, orange with brown crosshatching, and brown, respectively, and total approximately 1,206 acres, representing an increase of about 540 acres over the 1979 total of 666 acres. In 1979, residential development consisted of 67 acres in low-density and 448 acres in medium-density single-family residential development, 35 acres in medium-density two-family residential development, and 116 acres in high-density multi-family residential development. The recommended plan provides for an additional 85 acres of low-density single-family residential development on 15,000-square-foot to two-acre lots at densities ranging from 0.7 to 2.2 dwelling units per net residential acre; an additional 410 acres of medium-density single-family residential development on 8,000 to 15,000-square-foot lots at densities ranging from 2.3 to 4.3 dwelling units per net residential acre; an additional 12 acres of medium-density two-family residential development at densities ranging from 4.4 to 6.9 dwelling units per net residential acre (4,800 to 8,000 square feet of lot area per dwelling unit); and an additional 33 acres of multi-family development at densities ranging from 7.0 to 17.0 dwelling units per net residential acre, with a lot area of 2,600 to 4,800 square feet per dwelling unit. The residential acreages shown on the plan map provide an additional 90 acres of potential residential development, or 15 percent over and above the total residential acreage requirement. This additional acreage is provided in an effort to provide flexibility with regard to the actual timing and pattern of development that may occur over the plan design period.

Areas recommended for additional single-family residential development are located at the northern and southern edges of the Village, together with some in-fill development between the "Old Village" portion of the Village and the relatively new Hartridge Subdivision at the southern edge of the Village. Two-family residential development is recommended for those properties along the west side of Cottonwood Avenue between W. Park

Table 27

**EXISTING AND RECOMMENDED LAND USE IN THE VILLAGE OF
HARTLAND SANITARY SEWER SERVICE AREA: 1979 AND 2000**

| Land Use Category | Existing Land Use 1979 | | | Plan Increment 1979-2000 | | Recommended Land Use 2000 | | |
|---|---------------------------|------------------------|---------------------|-----------------------------|-------------------|------------------------------|------------------------|---------------------|
| | Net Acres | Percent of Subtotal | Percent of Total | Net Acres | Percent Change | Net Acres | Percent of Subtotal | Percent of Total |
| Urban | | | | | | | | |
| Residential | | | | | | | | |
| Single-Family | 515 ^a | 36.8 | 18.5 | 495 | 96.1 | 1,010 | 41.2 | 36.2 |
| Two-Family | 35 ^b | 2.5 | 1.3 | 12 | 34.3 | 47 | 1.9 | 1.7 |
| Multi-Family | 116 ^c | 8.3 | 4.2 | 33 | 28.4 | 149 | 6.1 | 5.3 |
| Commercial | | | | | | | | |
| Neighborhood Retail | 10 | 0.7 | 0.4 | 14 | 140.0 | 24 | 1.0 | 0.8 |
| Community Retail | 32 ^d | 2.3 | 1.1 | 2 | 6.3 | 34 | 1.4 | 1.2 |
| Industrial | | | | | | | | |
| Manufacturing, Wholesale, and Quarrying | 208 ^e | 14.9 | 7.5 | 270 | 129.8 | 478 | 19.5 | 17.2 |
| Transportation and Utilities | 226 | 16.1 | 8.1 | 155 | 68.6 | 381 | 15.5 | 13.7 |
| Governmental and Institutional | 179 | 12.8 | 6.4 | 25 | 14.0 | 204 | 8.3 | 7.3 |
| Recreational | | | | | | | | |
| Neighborhood Parks | 48 | 3.4 | 1.7 | 10 | 20.8 | 58 | 2.4 | 2.1 |
| Community Parks | 31 | 2.2 | 1.1 | 35 | 112.9 | 66 | 2.7 | 2.4 |
| Urban Subtotal | 1,400 | 100.0 | 50.3 | 1,051 | 75.1 | 2,451 | 100.0 | 87.9 |
| Rural | | | | | | | | |
| Surface Water | 12 | 0.9 | 0.4 | -- | -- | 12 | 3.6 | 0.4 |
| Wetlands | 265 | 19.1 | 9.5 | -- | -- | 265 | 78.9 | 9.6 |
| Woodlands | 99 | 7.1 | 3.5 | -40 | 40.4 | 59 | 17.5 | 2.1 |
| Agricultural, Unused Lands, and Other Open Lands | 1,011 | 72.9 | 36.3 | -1,011 | 100.0 | -- | -- | -- |
| Rural Subtotal | 1,387 | 100.0 | 49.7 | -1,051 | 75.8 | 336 | 100.0 | 12.1 |
| Total | 2,787 | -- | 100.0 | -- | -- | 2,787 | -- | 100.0 |

^a This figure includes 80 acres of vacant single-family residential land.

^b This figure includes eight acres of vacant two-family residential land.

^c This figure includes 30 acres of vacant multi-family residential land.

^d This figure includes two acres of vacant commercial land.

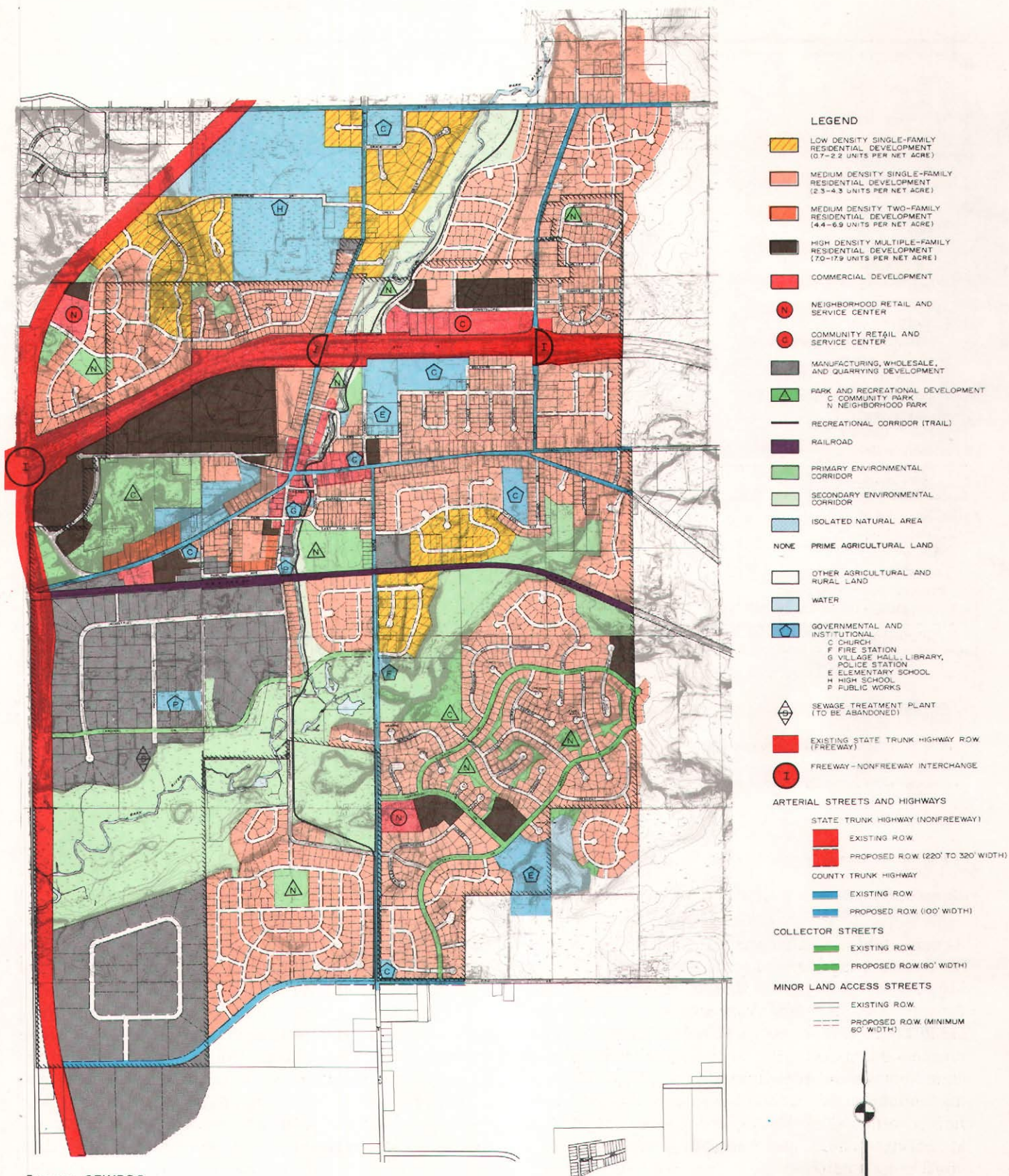
^e This figure includes 54 acres of vacant industrial land.

Source: SEWRPC.

Avenue and the Chicago, Milwaukee, St. Paul & Pacific Railroad; for properties facing the Chicago, Milwaukee, St. Paul & Pacific Railroad between Prospect Avenue and Cottonwood Avenue; and along the north side of W. Capitol Drive. The recommended two-family residential development areas, because of their juxtaposition between existing commercial/industrial development and single-family residential development, can provide an appropriate land use transition between these conflicting land uses.

Areas recommended for multi-family residential development primarily consist of the area between Hill Street and STH 16, and the area immediately north of Hartbrook Mall. Other small multiple-family areas are scattered throughout the older portions of the Village. As previously indicated, a relatively small increase of approximately 33 acres in multi-family development is proposed for the Village over the planning period. Comparison of the standards set forth in Chapter III with the actual amount of existing multi-family develop-

RECOMMENDED LAND USE PLAN FOR THE VILLAGE OF HARTLAND SANITARY SEWER SERVICE AREA: 2000



Source: SEWRPC.



ment in the Village indicates that the Village already has an adequate supply of land devoted to multi-family housing.

Neighborhood Concept

The residential areas shown on the plan map are the principal components of neighborhood areas within the Village. Ideally, neighborhoods are those areas of a community most closely associated with the daily activities of family life, generally including housing, elementary education facilities, neighborhood park facilities, and convenience shopping locations. Residential neighborhoods depend on the larger community for basic employment, major shopping, transportation, higher education, and cultural facilities. A group of neighborhoods that function as a unit may be defined as a community. By utilizing neighborhood units and combining them into communities, residential areas may be planned that provide a physical environment that is healthy, safe, convenient, and attractive.

The major objective of a neighborhood is to accommodate safe and healthy family home life and the activities associated with it. The neighborhood should be of sufficient size to maintain and protect its own environment, and should have a population large enough to support an elementary school of reasonable size within walking distance. The school should be located adjacent to a neighborhood park, and the school and park together should function as a center of neighborhood activity. The neighborhood should be provided with utilities and essential facilities for a safe and healthy environment. Also, shopping facilities and park and open space areas should be conveniently located. Furthermore, the boundaries of a neighborhood should consist of definite and recognizable features, such as railroads, major streets, natural barriers, or marked changes in land use. Streets carrying heavy traffic volumes should not penetrate a neighborhood.

Aside from showing the general land use pattern for the village proper over the planning period, the recommended land use plan, as shown on Map 29, also depicts relatively precise neighborhood development patterns for areas recommended for new development. These recommendations are intended to foster sound development of new traffic circulation, storm water drainage, sanitary sewerage, and water supply systems. The recommended precise neighborhood development patterns were based upon careful consideration of such factors as soil suitability, land slopes, surface drainage patterns, flood hazards, woodland and wetland cover, existing and proposed land uses, and real property

boundaries. The precise neighborhood development recommendations shown on the plan, while being quite detailed, must, nevertheless, also be flexible. The plan is intended to be used as a standard for evaluating development proposals of private and public agencies. It should not be presumed that private developers cannot present development plans harmonious with sound development standards, nor that any development plans that are privately advanced and at variance in some respect with the adopted land use plan are necessarily unacceptable. Local planning officials should remain receptive to proposed plan changes that can be shown to be better than the adopted plan while remaining compatible with the overall objectives for the development of the immediate neighborhood and the community as a whole.

Commercial Development

The recommended plan provides for a total of about 58 acres of commercial development by the end of the planning period, representing an increase of about 16 acres over the 1979 total of 42 acres. The commercial development areas shown on the plan map include two categories: neighborhood retail, designated with a circle N symbol, and community retail, shown with a circle C symbol. In 1979 neighborhood retail commercial development in the Village of Hartland retail trade area consisted of 10 acres. As indicated in Chapter IV, 10 additional acres of neighborhood retail commercial development are expected to be required in this retail trade area over the planning period. The land use plan for the Village provides for an additional 14 acres of neighborhood retail development during the planning period, which slightly exceeds the number of acres required in this land use category. This acreage is evenly divided into two seven-acre recommended neighborhood retail commercial sites—one located off the southeast corner of the intersection of Hartridge Drive and CTH HE, and the other located at the northwest edge of the Village, adjacent to STH 83. Well-organized neighborhood retail commercial centers typically include such facilities as a food store, a bakery shop, a drug store, a restaurant, a barber shop, a beauty shop, a laundry and dry cleaning store, a hardware store, and an automobile service station.

In 1979 community retail commercial development consisted of a total of 32 acres in the Village of Hartland retail trade area. As indicated in Chapter IV, this acreage already exceeds the amount of commercial land that would be required in the village retail trade area by the end of the planning period. Therefore, community retail commercial

development is recommended to be increased only an additional two acres. This additional recommended retail development area is located on the south side of E. Capitol Drive between Goodwin and Maple Avenues and off the northwest corner of the intersection of Cottonwood and W. Park Avenues. As was indicated in Chapter IV, additional community retail commercial development can be supported primarily on existing commercial land in the downtown area over the planning period. It is recommended that such additional facilities be encouraged to occur on commercial properties which are currently underutilized and contain obsolete or deteriorating structures. This recommendation is discussed further in the following description of central business district development in this Chapter. Community retail commercial facilities typically include neighborhood retail commercial uses plus such comparison goods shopping facilities as clothing, furniture, and appliance stores.

Industrial Development

Approximately 478 acres of land proposed for industrial use are shown in gray on plan Map 29. Of this total acreage approximately 270 acres are for new development over the planning period. This additional acreage approximates the industrial acreage requirement set forth in Table 23. As shown on the plan map, additional industrial development would consist of infill development of the remaining vacant parcels in the existing Hartland Industrial Park, in the southwest corner of the Village, together with expansion of industrial development into vacant lands located immediately east and south of the existing industrial park.

Transportation System Development

The arterial street system shown on plan Map 29 provides arterial street and highway access to all delineated neighborhood areas primarily through the use of the existing street system. Generally, the Village's arterial street system operates efficiently and will require limited alterations and improvements over the planning period. All arterial street segments in the Village should be maintained as two-lane, two-way arterials. This arterial street system should be maintained so as to facilitate ready access to centers of employment, government activity, shopping, services and recreation as previously indicated in this chapter. Recommendations regarding the improvement of the intersection of Capitol Drive and North Avenue are described in detail under the central business district land use development plan section of this chapter.

Village officials expressed concern during the land use planning process regarding the extent of certain impending land developments in the southern portion of the Village, and the lack of an east-west collector street to serve this area. Therefore, studies were conducted to determine an appropriate general alignment for such an east-west collector street. The recommended east-west collector street alignment, as shown on Map 29, would consist of an extension of Cardinal Lane from where it currently terminates at the east edge of the Hartland Industrial Park, in a northeasterly direction for approximately 500 feet, and then directly east for approximately 900 feet, forming a T-intersection with CTH HE (Maple Avenue). This alignment would flank the southern portion of the Village, and would avoid disruption of the elements of the natural resource base contained therein. Moreover, this proposed extension of Cardinal Lane would provide a direct means of vehicular access from the recommended fire station site in Hartridge Park to existing and proposed industrial development in the southwest corner of the Village.

It should be noted that the recommended transportation system shown on Map 29 does not provide for a new CTH HE (Maple Avenue) overpass over the Chicago, Milwaukee, St. Paul & Pacific railroad tracks, as was initially recommended and presented at public informational meetings held on the draft land use plan. The analysis of the transportation system conducted as a part of the land use planning process determined that this improvement would be needed to alleviate the existing fire protection hazard to urban development south of the tracks, posed by the grade-level crossing over the CMStP&P railroad tracks. The most direct means of access for fire emergency equipment housed in the village fire station to urban development south of the tracks is over the existing Maple Avenue grade-level crossing. It was determined that if a train were to block this crossing during a fire emergency located south of the tracks, the response of village fire emergency equipment would be substantially delayed. Furthermore, the initially recommended overpass and street relocation was deemed necessary to alleviate rush-hour traffic congestion along the segment of Maple Avenue between E. Capitol Drive and the CMStP&P railroad tracks. It should be noted that an existing substandard right-of-way width of 50 feet and a substandard street pavement width of 36 feet, coupled with the close spacing of driveway access points associated with the relatively narrow 60-foot-wide lots along this street

segment, are the principal causes of the traffic congestion. It was also recognized that the traffic congestion would likely worsen during the planning period, since the average weekday traffic volume on this street segment consisted of 4,340 trips in 1979, according to the Wisconsin Department of Transportation, and the 2000 forecast average weekday traffic volume for this same street segment, as set forth in the adopted regional transportation system plan, is 6,000-8,000 trips.

Preliminary studies by the Village Engineer, in cooperation with the Waukesha County Highway Department, indicated that the most cost-effective location for a proposed bridge structure over the tracks would be approximately 1,000 feet east of where CTH HE currently crosses the tracks. This location is where the CMStP&P railroad tracks are located on a cutting through a narrow north-to-south-oriented ridge. The advantage in using this location for the bridge structure would be that the existing slopes on both sides of the tracks could naturally provide, with minor modifications, the elevations required for the bridge embankments and abutments associated with the proposed bridge structure. Construction of such an overpass where CTH HE currently crosses the tracks was considered, but was not viewed as an advisable alternative because of the extent of development in the area and the multiplicity of existing property ownerships. Furthermore, a large, imposing bridge structure at this location would have a detrimental physical impact on Nixon Park and adjacent single-family residential development. It was also determined that the corresponding relocation of CTH HE that would have to be accomplished in conjunction with such an overpass would involve construction of a new roadway that would curve to the northeast from a point approximately at the northeast corner of Hartridge Park, connecting with the new overpass and then continuing in a northerly direction, forming a new T-intersection with E. Capitol Drive.

The initially recommended land use plan for the Village of Hartland sewer service area was formally presented to the community at a public informational meeting held by the Village Plan Commission and the Village Board on June 16, 1980. The plan presented at that meeting was essentially the same plan shown on Map 29, except that the plan proposed the CTH HE (Maple Avenue) overpass over the CMStP&P Railroad, as previously described. The viewpoints on this matter, as presented by citizens in attendance at the meeting, may be summarized as follows:

1. The proposed overpass would encourage additional traffic through the older portion of the Village, particularly on E. Capitol Drive. It was stated that this additional traffic would disrupt the pleasant, mature, single-family residential character of E. Capitol Drive, decrease property values, and increase traffic hazards to pedestrians.
2. The proposed overpass would not alleviate existing rush-hour traffic congestion on Maple Avenue.
3. The best solution to the traffic circulation problems in the southern portion of the Village would be either to construct a new east-west road between the east edge of the Hartridge Subdivision and Jungbluth Road (CTH KE) or to construct a new north-south road along the east corporate limit line of the Village to USH 16. It was also suggested that the immediate construction of the proposed extension of CTH KE westward to STH 83 would further relieve traffic congestion on Maple Avenue.

In addressing the above comments made at the meeting, the Commission staff explained that the maximum service volumes for the existing 44-foot pavement (urban cross-section) of E. Capitol Drive and the proposed ultimate 48-foot pavement (urban cross-section) of relocated CTH HE would both be in the range of 11,000 to 14,000 vehicle trips per day, which would be substantially above the 2000 forecast average weekday volume ranges of 6,000 to 8,000 trips per day for CTH HE, and 7,000 to 9,000 trips per day for E. Capitol Drive, indicating that more than adequate capacity would be available on these segments of the Village's street system during the planning period.

It was also pointed out by the Commission staff that much of the rush-hour traffic congestion on the northern portion of Maple Avenue was caused by the narrowness of the existing pavement, the close spacing of existing driveway access points along the street, the deteriorating condition of the existing pavement, and perhaps the need for a more precise means of traffic control at the intersection of Maple Avenue and E. Capitol Drive other than the existing stop sign for northbound traffic on Maple Avenue. Also, the Commission staff indicated that street and driveway access points along relocated CTH HE would be limited, thereby preventing the type of traffic conflicts that now occur along existing Maple Avenue. Further-

more, the Commission staff stated that the suggestions regarding the construction of either a new east-west road between the Hartridge Subdivision and Jungbluth Road or a new north-south road along the east corporate limit line of the Village between the Hartridge Subdivision and USH 16 would be very difficult, if not impossible, to accomplish. A new east-west road between Hartridge Subdivision and Jungbluth Road would only be possible through 100 percent village financing of land acquisition and construction costs, since no additional urban development is recommended in this area during the planning period. This situation precludes the possibility of acquiring right-of-way dedications for such a road through the subdivision approval process, the typical means through which street rights-of-way are acquired in the Village. A new north-south road along the east corporate limit line of the Village between the Hartridge Subdivision and USH 16 would also be difficult to accomplish owing to the extent of existing and committed development, wetlands, woodlands, and rugged terrain along this route and the proximity of the new interchange—which the route would form with USH 16—to the existing Merton Avenue-USH 16 interchange approximately 1,300 feet to the west.

After thoroughly reviewing the Commission staff recommendations and the viewpoints presented by citizens at the June 16, 1980 meeting and at a subsequent regular Village Plan Commission meeting, held on August 4, 1980, the Plan Commission reached the concensus that the proposed CTH HE overpass should be deleted from the recommended land use plan and that the route of Maple Avenue be maintained as it exists. The Village Plan Commission expressed the opinion that the proposed extensions of Cardinal Lane and CTH KE between CTH HE and STH 83 should be constructed as soon as possible to relieve traffic on CTH HE.

Community Facilities

Education: In accordance with the forecast elementary school age population of the Village for the year 2000 and the elementary school site needs identified in Chapter IV, the recommended land use plan shows the Hartland North and Hartland South Elementary School sites being maintained as the only public elementary school sites in the Village during the planning period. However, in order for these schools to meet forecast enrollment levels, expansion of the site areas and buildings at both schools may be expected to be required. As shown on the plan map, the Hartland North

Elementary School site is recommended to be expanded on the south to Lawn Street. This site expansion would add about two acres to the existing Hartland North site, for the purpose of providing additional space for future building and outdoor recreation facility expansion. Also, the recommended plan shows the addition of approximately six acres along the southern boundary of the existing Hartland South Elementary School site. This additional site area would primarily serve as outdoor recreation space for the school after expansion of the existing building. Since high school enrollment is anticipated to remain relatively stable, no additional high school site area or facilities are provided for in the land use plan.

Outdoor Recreational Facilities: The recommended plan provides for a total of 124 acres of land in outdoor recreation and open space uses. Of this total, approximately 45 acres of additional lands are proposed for development over the planning period. As indicated in Chapter IV, no additional regional, multi-community, or community outdoor recreation sites are expected to be required in the Village over the planning period. However, it has been determined that the provision of a swimming facility would be desirable in the Village by the end of the planning period. Although additional community level recreation land is not required, the abandoned gravel pit at the west edge of the Village is well located and has natural site characteristics that lend itself to development as a swimming facility. Therefore, the plan recommends development of this site as a public community swimming facility and park.

The anticipated increase in the village population over the next 20 years will foster a substantial amount of new residential development. Such development will create a need for additional neighborhood parks. These smaller parks are intended to meet the immediate, day-to-day outdoor recreational requirements of local residents. The recommended plan provides for two additional five-acre neighborhood park sites; one in the center of an area proposed for medium-density single-family residential development located immediately west of the Hartridge Subdivision at the southwest edge of the Village, and the other in an area proposed for low- and medium-density residential development at the northeast edge of the Village. These recommendations are based upon the neighborhood park requirements set forth in Chapter IV. The type of facilities to be provided in these parks should consist of or approximate the type of facilities listed in Table 20.

Public Buildings and Related Facilities: The study of public buildings and related facility requirements set forth in Chapter IV indicates that a second fire station should be provided in the southern portion of the Village by the end of the planning period. The recommended land use plan shows this facility located in the northwest corner of Hartridge Park, abutting Maple Avenue. A fire station at this location would provide adequate fire protection to the existing and proposed single-family residential areas in the southern portion of the Village and to the existing and proposed high-value industrial areas in the southwest corner of the Village.

The recommended land use plan also shows the location of a new Village Hall on property at the northeast corner of the intersection of E. Park Avenue and Cottonwood Avenue. The new Village Hall would provide a centralized location for the general administrative offices of the Village, the Police Department, the Library, and the Department of Public Works offices. The existing village garage and storage area located on the east side of Cottonwood Avenue immediately north of the CMStP&P railroad tracks is recommended to be maintained for use by the Village Parks and Public Works Departments over the planning period.

When service from the new Dela-Hart sewage treatment plant becomes available to the Village, the existing village sewage treatment plant will no longer be needed for this purpose. However, the plan recommends that the Village retain ownership of its sewage treatment plant site for additional space to meet future municipal garage and storage facility needs.

Environmental Corridors

As shown by the dark green areas on the plan map, primary environmental corridors within the Village total approximately 318 acres, or about 11 percent of the village proper. Primary environmental corridors cover significant portions of the Village, with the most significant concentration located west of CTH HE and immediately south of the village industrial park. In addition, primary environmental corridor lands extend through the wetland area adjacent to the existing urban development located along the south side of E. Capitol Drive; and in an area located immediately northwest of the existing village limits. As previously stated, primary environmental corridors should be considered inviolate and should be kept in essentially natural open uses. Secondary environmental corridors are shown as the medium green areas on the plan map and comprise approximately 60 acres, or about

2 percent of the village proper. Secondary environmental corridors extend through the central portion of the Village along the Bark River. As previously stated, secondary environmental corridors should be considered for retention in park and open space use. In urban areas, secondary environmental corridors should be considered for use in the development of greenways, drainageways, storm water detention and retention areas, and public and private open spaces. The recommended land use plan provides for the development of a pathway or recreational trail on the secondary environmental corridor lands lying adjacent to the Bark River.

Isolated natural areas are shown as the light green areas on the plan map and comprise approximately 19 acres, or 1 percent of the village proper. There are two isolated natural areas shown on the plan map, one in the southeast corner of the village proper and one in the northwest corner of the village proper. Although isolated natural areas are geographically separated from environmental corridors, in some instances they may have sufficient natural resource values to warrant zoning protection and preservation in permanent open space. It should be further noted that no areas within the recommended sanitary sewer service area of the Village are proposed to be maintained in agricultural land use by the end of the planning period.

RECOMMENDED CENTRAL BUSINESS DISTRICT LAND USE PLAN

As stated in Chapter I, in addition to providing guidelines for land use development generally within the recommended sewer service area of the Village, the plan is intended to provide an overall development framework for future physical improvement efforts in the existing central business district (CBD) of the Village. This framework represents the land use development policy of the Village toward the central business district, and should be used as a basis for future land use decisions and for the preparation of the detailed design of site-specific improvement projects.

The unique character of Hartland's CBD is created primarily by the mature architecture of the "store front" commercial buildings located in the "downtown" and by the presence of the Bark River which flows through the center of the CBD. These factors, combined with a favorable economic climate, once made Hartland an important sub-regional focal point for various social and economic activities. However, dynamic economic

forces at work outside the Village have created a situation whereby the Hartland CBD no longer acts as a prominent focal point in the Region. The continued viability of the CBD depends on its ability to attract people to work, shop, conduct personal business, and seek entertainment. It is unrealistic to formulate physical development objectives for the Hartland CBD which attempt to directly compete with major new outlying commercial developments. Therefore, redevelopment and improvement efforts in the central business district must be directed toward enhancing and exploiting the unique qualities of the central business district with the type of land uses and activities which are most compatible with the economic, social, and physical characteristics of the Village and which are primarily directed toward meeting the needs of future residents in the Village and the surrounding area. With positive action on the part of the Village and the business community, the socioeconomic environment of the central business district can be stabilized and improved.

The recommended central business district land use development plan, as shown on Map 30, sets forth a general physical development framework for future land use development and improvement in the district. In addition to showing the recommended land uses in the central business district, this plan provides recommendations as to the location and extent of commercial redevelopment, off-street parking development, and traffic circulation improvements.

As shown on Map 30, neighborhood and community retail commercial development and off-street parking areas are the dominant land uses recommended within the delineated central business district. The remaining portions of the district consist of governmental and institutional land uses and primary and secondary environmental corridor lands along the banks of the Bark River.

Central Business District Commercial Redevelopment

As discussed in Chapter II, Hartland's CBD can be characterized as having varying levels of commercial vitality, structural condition, and quality and intensity of land utilization. Land use development in the CBD can be categorized into one of three categories: development that is part of the primary focus of commercial activity; development that is part of a secondary focus of commercial activity; and marginal ancillary development. The district land use development plan encourages the enhancement and preservation of existing land use devel-

opment in those areas which have been delineated as being either a primary or secondary focus of commercial activity. Therefore, the principal preservation area, as shown on Map 30, is located generally in the central portion of the where Hill Street, North Avenue, and E. Capitol Drive intersect. Other smaller preservation areas are located at the edges of the CBD along Cottonwood Avenue and in the vicinity of the intersection of E. Capitol Drive and Church Street.

The areas shown on Map 30 as redevelopment areas consist of those properties where structural obsolescence, underutilization of commercial land, and relatively low pedestrian volumes occur in combination. Recommended commercial redevelopment areas are located on the north side of E. Capitol Drive between the Hornburg Ford service garage and the Hopkins Savings and Loan property; on properties along the south side of E. Capitol Drive between the Hornburg Ford new car sales building and the Masonic Temple; and on properties along the west side of Cottonwood Avenue between W. Capitol Drive and W. Park Avenue.

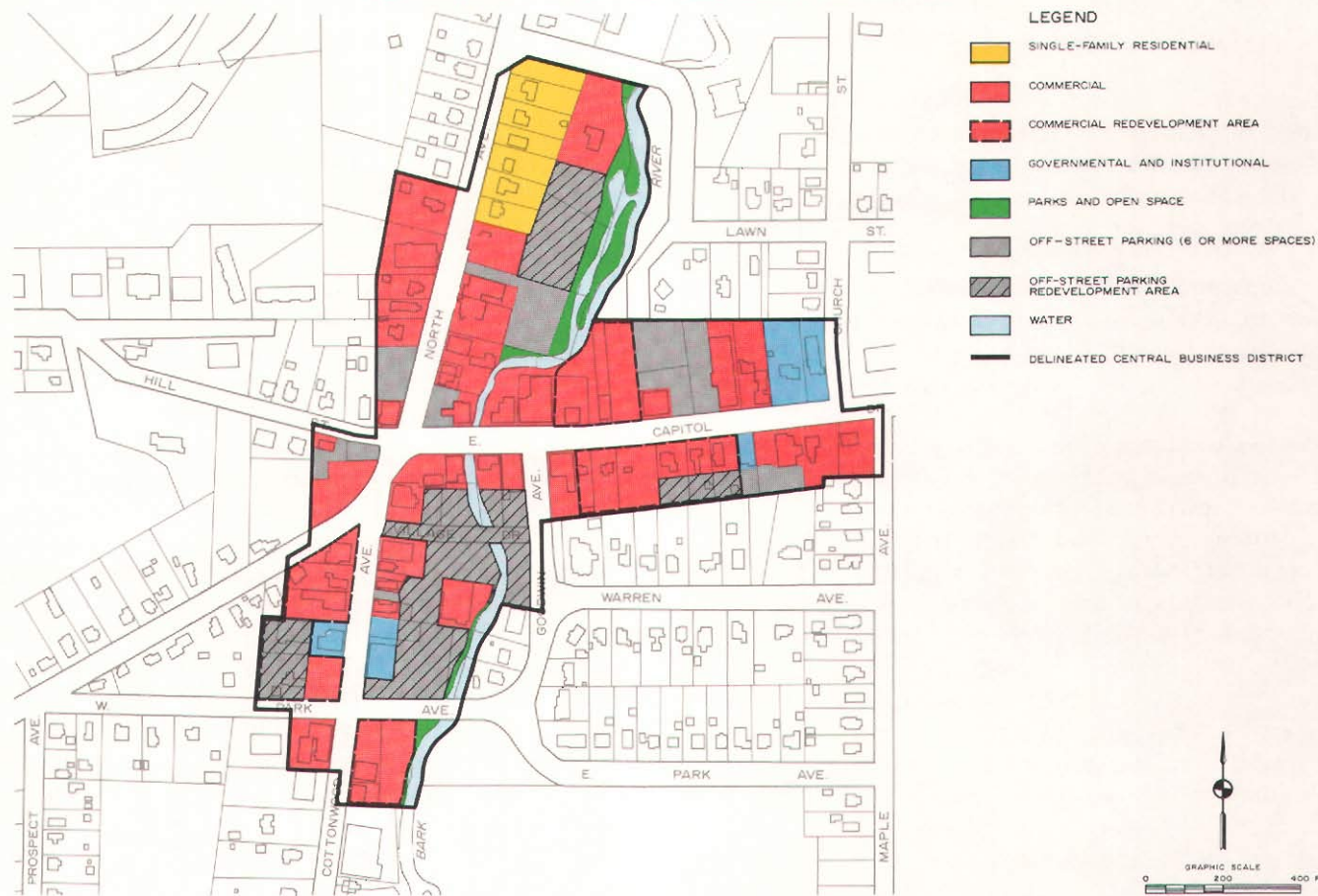
The additional 65,000 square feet of commercial retail space recommended to be provided in the commercial redevelopment areas previously described should include some additional convenience goods and services outlets such as food stores, variety stores, barber and beauty shops, financial institutions, bakery shops, and similar uses; some additional comparison goods stores, such as gift shops, sporting goods stores, shoe stores, restaurants, clothing stores, professional offices, and similar uses; and some additional specialty commercial facilities such as antique shops, art, dance or music teaching studios, candy and confectionery stores, boutique shops, and similar types of specialty commercial establishments. Relatively intensive commercial development should be directed toward the delineated redevelopment areas.

Central Business District Parking Development

Map 30 indicates four areas where additional off-street parking space should be provided in the Hartland CBD. These locations consist of the area located to the south and east of existing commercial establishments located in the block bounded by W. Capitol Drive, Goodwin Avenue, W. Park Avenue, and Cottonwood Avenue; the area located at the northwest corner of the intersection of W. Park Avenue and Cottonwood Avenue; the area located immediately north of the existing municipal parking lot located along the west shoreline of the Bark River, immediately north of E. Capitol

Map 30

RECOMMENDED VILLAGE OF HARTLAND CENTRAL BUSINESS DISTRICT LAND USE DEVELOPMENT PLAN: 2000



Source: SEWRPC.

Drive; and the area along the southern portion of properties located immediately south of the existing Piggly Wiggly food store on Capitol Drive.

The recommended off-street parking area located in the block bounded by E. Capitol Drive, Goodwin Avenue, W. Park Avenue, and Cottonwood Avenue (the Village Drive parking lot) as delineated on Map 30, is currently comprised of a group of separate off-street parking areas. The key to any effort to improve the amount and organization of off-street parking facilities in this area would be eliminating Village Drive as an access street between Cottonwood Avenue and Goodwin Avenue and vacating the existing street right-of-way. As previously indicated, Village Drive merely provides a means of access to the existing off-street parking in the area. Village Drive is not required for local traffic circulation. Consequently, access to and traffic circulation within this off-street parking area can be improved and the number of off-street parking spaces increased through the establishment of a new, efficiently designed and well-coordinated off-street parking area. As previously indicated, the provision of separate off-street parking and loading areas for individual commercial establishments in the area has created a situation whereby the provision of off-street parking in the area is neither as efficient nor as well organized as is possible. By eliminating Village Drive and reorganizing and redesigning the existing parking area, approximately 50-75 additional off-street parking spaces could be provided in this area.

Any provision of off-street parking improvements in this area would necessitate development of a new entrance to this parking area from Cottonwood Avenue. It is possible that this may be accomplished by utilizing the existing driveway between the Lake Country Reporter offices and the existing residence immediately to the south. However, adequate space for an entrance at this location may necessitate the provision of additional land area from one or both of these properties. Also, any improvement of off-street parking facilities in this area should take into account the fact that the Bark River flows through the area and that the land use plan for the Village recommends the development of a pedestrian trail along with passive recreation areas along the portions of the Bark River within the Village. Off-street parking improvements should be accomplished in a manner that is compatible with the recommended recreation-oriented improvements along the Bark River. Any improvements to this area should be designed so as to provide an increased

sense of the natural amenity of, and more direct visual contact with, the Bark River.

A suggested design for the redevelopment of the Village Drive parking lot is shown on Map 31. The suggested design provides a total of 175 off-street parking spaces, in comparison to the 116 off-street parking spaces currently provided in the same area. In addition, the suggested design provides for fluid traffic circulation within the proposed off-street parking area, creates passive open space and pedestrian pathways along the Bark River shoreline, eliminates the previously discussed traffic circulation problems associated with the intersection of Hill Street, North Avenue, E. Capitol Drive, W. Capitol Drive, Village Drive, and Cottonwood Avenue, and accommodates the possible expansion of the existing Super Valu food store.

The second area recommended for off-street parking development, located off the northwest corner of the intersection of W. Park Avenue and Cottonwood Avenue, could provide approximately 60 additional off-street parking spaces, as shown on Map 30. This off-street parking facility would be constructed at grade level and would be located to the east of the steep north-south-oriented slope which runs along its western edge. The higher elevation of adjacent properties to the west of this site would provide a natural buffer between the proposed off-street parking area and residential uses to the west. The additional off-street parking spaces provided on this site would primarily serve off-street parking needs associated with the post office, the village municipal building, and the recommended commercial development area immediately to the north.

The recommended off-street parking area located immediately north of the existing municipal parking lot north of E. Capitol Drive, as shown on Map 30, provides sufficient area for approximately 75 additional off-street parking spaces. This additional off-street parking facility, combined with the existing municipal parking lot adjacent to the south, would serve commercial properties along the east side of North Avenue and along the north side of E. Capitol Drive. As previously discussed, a specific pedestrian pathway and other associated passive recreation improvements should be provided along the west shoreline of the Bark River in conjunction with the development of additional off-street parking in this area.

The recommended off-street parking area located to the south of the properties located on the

SUGGESTED DESIGN FOR THE REDEVELOPMENT OF THE VILLAGE DRIVE PARKING LOT IN THE VILLAGE OF HARTLAND CENTRAL BUSINESS DISTRICT



Source: SEWRPC.

south side of E. Capitol Drive and across the street from the existing Piggly Wiggly food store, as shown on Map 30, provides space for an additional 40 off-street parking spaces. This off-street parking area is intended to serve the commercial redevelopment area located along the south side of E. Capitol Drive. The presence of single-family housing along the south edge of this proposed off-street parking area would require the construction of a landscape buffer or visual screen which would provide a visual separation between the off-street parking area and the adjacent residences.

Central Business District
Traffic Circulation Improvements

In an effort to better organize and direct traffic circulation within and through the intersection of Hill Street, North Avenue, E. Capitol Drive, Village Drive, Cottonwood Avenue, and W. Capitol Drive,

the recommended central business district development plan proposes a major alteration of this intersection. As previously discussed, this alteration would consist of the elimination of Village Drive as one of the streets entering this intersection, which is consistent with the off-street parking improvements recommended for the area within the block bounded by E. Capitol Drive, Goodwin Avenue, W. Park Avenue, and Cottonwood Avenue, and of the relocation of the point where Cottonwood Avenue intersects with W. Capitol Drive so as to form a 90-degree-angle intersection with W. Capitol Drive. These recommended alterations would establish a conventional four-way intersection consisting of Hill Street, North Avenue, E. Capitol Drive, and W. Capitol Drive, and would therefore help to eliminate traffic conflicts, confusion to motorists, and sight clearance problems currently associated with this intersection.

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Chapter VI

PLAN IMPLEMENTATION

INTRODUCTION

The recommended land use plan described in Chapter V of this report provides a design for the attainment of the land use development objectives and supporting standards set forth in Chapter III of this report. In a practical sense, however, the plan is not complete until the steps to implement the plan are specified. After formal adoption of the land use plan (see Appendices A and B for suggested adopting resolutions), realization of the plan will require faithful, long-term commitment to the objectives on which the plan is based by both village officials and concerned citizens of the Village. This commitment will be measured by a willingness to undertake substantial investments, a strong concern for the welfare of the community, and a realization that a coordinated series of actions must be taken in order to ensure a continued high-quality living environment. 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 should be used as a guide for land development in the Village and surrounding areas within the Village's extraterritorial plat approval jurisdiction. Adjustments to the plan should be made as required by changing physical, social, and economic conditions, or by changes in the Village's land use development policies. Consequently, one of the important tasks of plan implementation is a periodic reevaluation and reexamination of the plan to ensure that it is properly reflective of the existing situation.

Attainment of the recommended land use plan for the study area will require some changes in the development policies of the Village. Since the maintenance of the present character of the study area and the Village is dependent to a considerable extent upon preserving and protecting the natural resource base, the density of new development should be carefully regulated to ensure that new development at urban densities—greater than 0.7 dwelling unit per net residential acre—is confined to those areas where urban services can be provided. These areas, as shown on Maps 28 and 29, comprise the Village of Hartland sanitary sewer service area.

Development requiring the conversion of the best remaining agricultural lands to urban use, the draining and filling of wetlands, or the grading of hilly wooded sections should be avoided. This policy is central to a sound development strategy for the study area. In fact, the effectiveness of many of this report's more specific recommendations will be lost if this policy is ignored or greatly compromised. In the long term, development policies and practices which respect the limitation of the natural environment not only will preserve the overall quality of the environment in the Village and study area, but will also avoid the need to provide costly urban facilities and services in the future to a disorganized ever-widening urban area. Unsewered residential development outside the areas recommended for suburban and low-density residential development should be permitted only on rural estate-size lots in order to preserve the rural character and setting of the area. Such rural estate lots should have a minimum area of 5 acres. The soils maps provided to the Village as part of the land use planning program and the soils maps presented in Chapter II of this report should be reviewed by the Village prior to the approval of additional land subdivisions within the extraterritorial plat approval jurisdiction of the Village.

Attainment of the recommended land use plan for the village proper will require not only changes in certain development policies of the Village, but also the introduction and modification of certain plan implementing instruments. These changes should include the strict review of all subdivisions for conformance with the plan and plan objectives, the adoption of an updated zoning ordinance to reflect current land uses and to assist in implementing the plan, and the adoption of an official map to implement the land use plan for streets, highways, parkways, parks, and playgrounds.

SUBDIVISION PLAT REVIEW

As indicated in Chapter II, the Village's subdivision and platting ordinance (Revised Ordinance No. 289), if properly administered within the context of the recommended land use plan, can adequately provide for the regulation of the sub-

division of land within the village limits and in the Village's extraterritorial plat approval jurisdictional area. Following adoption of the land use plan, the plan should serve as a basis for the review of all preliminary plats and certified survey maps. Urban subdivisions should not be approved in areas recommended to remain in nonurban use unless the developer can fully justify changing the land use plan. Any such proposed departures from the land use plan should be carefully considered by the Village Plan Commission and should be made by that Commission only when it finds that such departures are indeed warranted in the public interest. All urban subdivisions should be required to provide a full complement of urban services and improvements.

ZONING

Following adoption of the land use plan by the Village Plan Commission and certification to the Village Board, the Village Plan Commission should immediately initiate amendments to the village zoning ordinance and zoning district map to bring both documents into conformance with the proposals advanced in the adopted land use plan as presented herein. Of all the land use implementation devices presently available, perhaps the most important and most versatile is the application of local police power to control land use development through the adoption of appropriate zoning ordinances, including zoning district regulations and zoning district delineations. A review of the existing village zoning ordinance has revealed certain deficiencies and has indicated that in order to work effectively toward implementation of the plan, a new village zoning ordinance should be adopted. Map 32 shows the recommended zoning district boundaries required for the Village to effectively work toward implementation of the recommended plan. Table 28 provides a summary of the recommended zoning district regulations. Pursuant to state enabling legislation, the zoning changes recommended by the Plan Commission can only be enacted by the Village Board after formal public hearing. The proposed zoning districts and attendant regulations are discussed briefly below.

General Agricultural Holding District

This district is intended to provide for the continuation of general farming and related uses in those areas of the Village that are not yet committed to urban development. It is further intended that this district protect lands contained therein from urban development until their orderly transition into urban-oriented districts is required. The district provides for a minimum lot size of 5 acres.

Single-Family Residential Districts

Four single-family residential districts are proposed for the zoning ordinance. The Rs-1 District provides for a minimum lot size of 15,000 square feet; the Rs-2 District for lots 12,000 square feet in size; the Rs-3 District for a lot size of 10,000 square feet; and the Rs-4 District for a lot size of 8,000 square feet. All single-family residential districts are intended to be served by public sanitary sewer and public water supply facilities.

Two-Family Residential Districts

Two, two-family residential districts are proposed. One district, the Rd-1, provides for a minimum lot size of 15,000 square feet and the other district, the Rd-2, provides for a minimum lot size of 10,000 square feet. Both districts are intended to be served by both public sanitary sewer and public water supply facilities.

Multi-Family Residential District

One multi-family residential district is proposed. The Rm-1 District is intended for multi-family dwellings not to exceed an overall density of 10.9 dwelling units per net acre. This district is intended to be served by both public sanitary sewer and public water supply facilities.

Neighborhood Business District

This district is intended to provide for individual or small groups of retail and customer service establishments. This type of district is generally located away from the traditional central business district and provides such amenities as increased open space and off-street parking and loading facilities, making such retail centers more compatible with the character of adjacent residential districts.

Community Business District

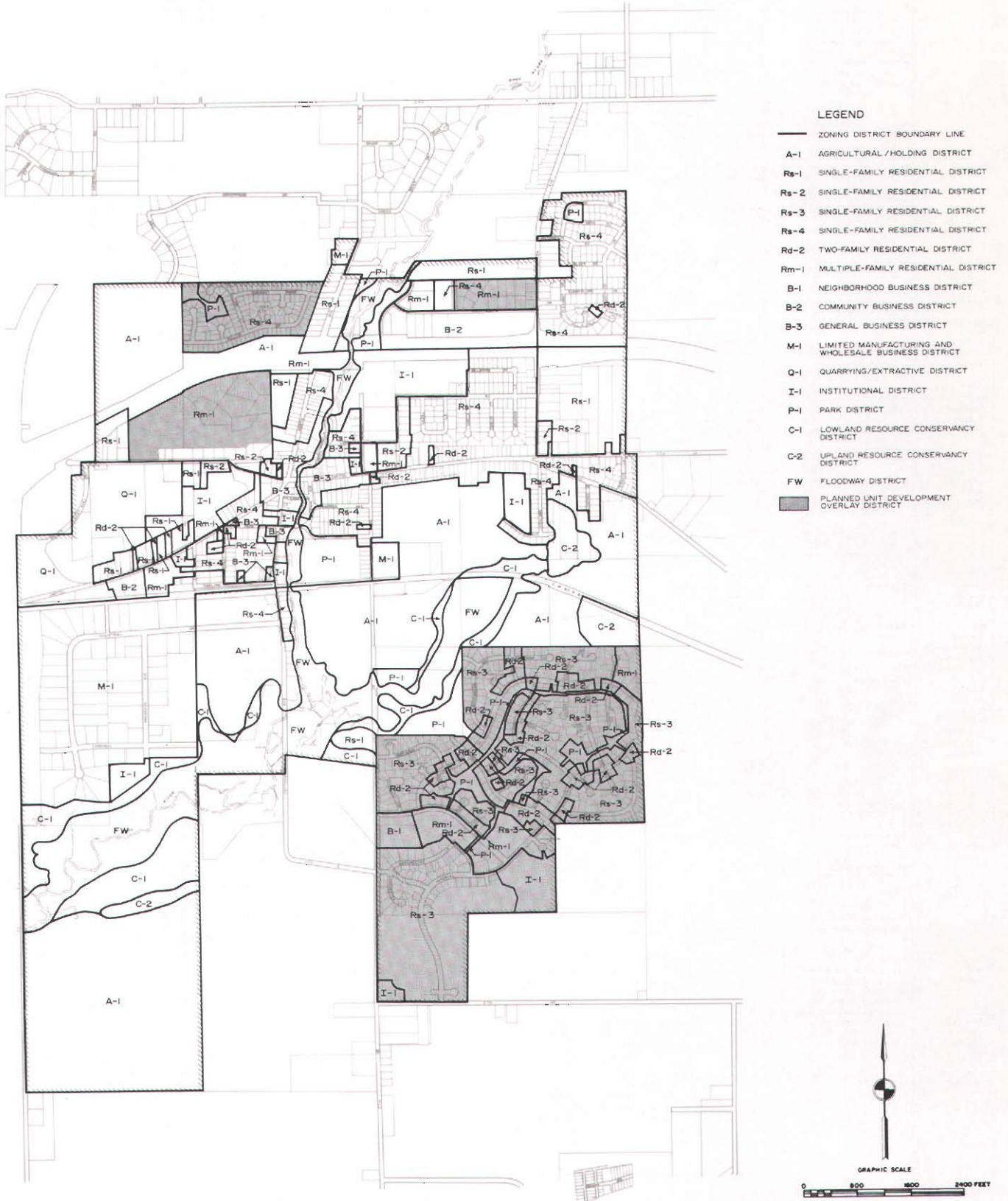
The B-2 Business District is intended to provide for individual or large groups of retail and customer establishments in a "shopping center" setting. This type of district is usually located at or near the intersections of two arterial streets or highways but is separated from the traditional "central business district," and is designed for the convenience of weekly or monthly one-stop shopping and includes such amenities as increased open space and ample off-street parking and loading areas and architectural screening or landscaping.

General Business District

This district is intended to provide for the preservation and orderly revitalization of the central business district of the Village. Business activities in this district are of a more general retail and office nature and are characterized by both

Map 32

RECOMMENDED ZONING MAP FOR THE VILLAGE OF HARTLAND



Source: SEWRPC.

Table 28

SUMMARY OF PROPOSED ZONING DISTRICTS FOR THE VILLAGE OF HARTLAND

| District | Permitted Uses | | Conditional Uses | Maximum Residential Density (dwelling units per net acre) | Minimum Lot Size | | | Minimum Yard Requirements | | | Maximum Building Height (feet) |
|---|--|--|---|---|--------------------|--|-------------------------|---------------------------|------------------|------------------|--------------------------------|
| | | | | | Total Area | Area Per Dwelling Unit | Width at Setback (feet) | Front Yard (feet) | Side Yard (feet) | Rear Yard (feet) | |
| | Principal | Accessory | | | | | | | | | |
| A-1 General Agricultural Holding District | Agricultural warehousing, contract sorting, grading and packaging of fruits and vegetables, corn shelling, poultry hatching services, essential services | Living quarters for watchmen or caretakers, off-street parking and loading | Airports, airstrips, utilities, housing for farm laborers and seasonal farm workers, veterinary clinics, commercial feed lots, and similar uses | 0.2 | 5 acres | 5 acres | 300 | 50 | 25 | 50 | 60 |
| Rs-1 Single-Family Residential District | Single-family dwellings, foster family homes, community living arrangements, essential services | Garages, carports, storage sheds, home occupations | Utilities | 2.9 | 15,000 square feet | 15,000 square feet | 90 | 30 | 15 | 25 | 35 |
| Rs-2 Single-Family Residential District | Single-family dwellings, foster family homes, community living arrangements, essential services | Garages, carports, storage sheds, home occupations | Utilities | 3.6 | 12,000 square feet | 12,000 square feet | 80 | 30 | 10 | 25 | 35 |
| Rs-3 Single-Family Residential District | Single-family dwellings, foster family homes, community living arrangements, essential services | Garages, carports, storage sheds, home occupations | Utilities | 4.3 | 10,000 square feet | 10,000 square feet | 75 | 30 | 10 | 25 | 35 |
| Rs-4 Single-Family Residential District | Single-family dwellings, foster family homes, community living arrangements, essential services | Garages, carports, storage sheds, home occupations | Utilities | 5.4 | 8,000 square feet | 8,000 square feet | 70 | 30 | 10 | 25 | 35 |
| Rd-1 Two-Family Residential District | Two-family dwellings, foster family homes, community living arrangements, essential services | Garages, carports, storage sheds, home occupations | Utilities | 5.8 | 15,000 square feet | 7,500 square feet | 90 | 30 | 15 | 25 | 35 |
| Rd-2 Two-Family Residential District | Two-family dwellings, foster family homes, community living arrangements, essential services | Garages, carports, storage sheds, home occupations | Utilities | 8.7 | 10,000 square feet | 5,000 square feet | 75 | 30 | 10 | 25 | 35 |
| Rm-1 Multi-Family Residential District | Multi-family dwellings, foster family home unit, community living arrangements, essential services | Garages, carports, storage sheds, utilities, housing for the elderly, and mobile home parks | Utilities | 10.9 | 12,000 square feet | Efficiency and one-bedroom: 4,000 square feet; Two or more bedrooms: 5,000 square feet | -- | 30 | 15 | 25 | 35 |
| B-1 Neighborhood Business District | Small retail and customer service establishments including food stores, hardware stores, drug stores, barber and beauty shops, dry cleaning stores, and similar uses | Garages for storage of vehicles used in conjunction with the operation of a business, and off-street parking and loading areas | Petroleum service stations, drive-in eating establishments, drive-in banks, utilities | -- | 1 acre | -- | 150 | 50 | 40 | 40 | 35 |
| B-2 Community Business District | B-1 principal permitted uses, professional and business offices, comparison of good retail stores and shops, including book stores, clothing stores, shoe stores, department stores, furniture stores, pet shops, photographic stores, restaurants, and similar uses | Garages for the storage of vehicles used in conjunction with the operation of a business, and off-street parking and loading areas | Petroleum service stations, drive-in eating establishments, drive-in banks, antiques and secondhand merchandise stores, hotels, and motels, utilities | -- | 5 acres | -- | 300 | 30 | 10 | 25 | 35 |
| B-3 General Business District | B-1 and B-2 principal permitted uses plus new and used automobile sales | Garages for the storage of vehicles used in conjunction with the operation of a business, off-street parking and loading areas | Same as B-2 District | -- | 4,900 square feet | -- | 40 | -- | -- | 25 | 45 |
| M-1 Limited Manufacturing and Wholesale Business District | Light manufacturing and warehousing | Garages for the storage of vehicles used in conjunction with the operation of a business, off-street parking, and loading areas | Transmitting towers, construction services, fuel oil, bottled gas, outside storage | -- | 20,000 square feet | -- | 100 | 50 | 15 | 25 | 35 |
| M-2 General Manufacturing District | Heavy manufacturing uses, outside storage | Off-street parking and loading areas | Nuisance industries | -- | 40,000 square feet | -- | 125 | 30 | 25 | 25 | 45 |
| M-3 Quarrying/ Extractive District | -- | -- | Mining or extraction of rock, slate, gravel, sand, topsoil or other material, storage of the foresaid products, onsite processing of extracted material | -- | -- | -- | 80 | 200 | 100 | 100 | 75 |
| I-1 Institutional District | Public office buildings, schools, churches, police and fire stations, and public utility offices | Off-street parking and loading areas | Hospitals, cemeteries, electric generating plants, public service garages and storage areas, aboveground water storage tanks | -- | 10,000 square feet | -- | 75 | 30 | 10 | 25 | 35 |
| P-1 Park District | Parks, playgrounds, and playfields | Off-street parking and storage areas | Archery ranges, field houses, golf courses, and similar uses | -- | -- | -- | -- | 40 | 20 | 40 | 35 |
| C-1 Lowland Resource Conservancy District | Open space uses, not including structures | Off-street parking | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| C-2 Upland Resource Conservancy District | Open space uses and single-family dwellings | Storage sheds and general farm buildings | Raising of poultry, fowl, fish, etc. | 0.2 | 5 acres | 300 | 45 | 30 | 35 | 35 | 35 |
| FW Floodway District | Drainage movement of water, navigation, wild crop harvesting, open space parking, and similar uses | -- | Open space improvements | -- | -- | -- | -- | -- | -- | -- | -- |
| FC Floodplain Conservancy District | Preservation of scientific areas, public fish hatcheries, soil and water conservation, sustained yield forestry | -- | Accessory structures, municipal water supply and sanitary sewerage systems | -- | -- | -- | -- | -- | -- | -- | -- |
| FFO Floodplain Fringe Overlay District | -- | -- | Restricted residential structures, restricted commercial, industrial and other nonresidential structures, municipal water and sanitary sewerage systems, and filling of lands | -- | -- | -- | -- | -- | -- | -- | -- |
| PUD Planned Unit Development Overlay District | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

^a As per underlying basic use district requirements.

Source: SEWRPC.

on-street and off-street parking. This district provides for a minimum lot size of 4,800 square feet.

Limited Industrial and Wholesale Business District

This district is intended to provide for industrial uses such as manufacturing or fabrication operations, which, on the basis of physical and operational characteristics, would not be detrimental to the immediate surrounding area or to the Village as a whole by reason of smoke, odor, noise, dust, flash, traffic, physical appearance, or other, similar factors; and to establish such regulatory controls as will reasonably ensure compatibility with the surrounding area in this respect.

General Industrial District

This district is intended to provide for industrial uses of a more general and less restrictive nature than the Limited Industrial District in those areas where the relationship to surrounding land use would create fewer problems of compatibility. This district would not normally abut directly upon residential districts.

Quarrying/Extractive District

This district is intended to provide for the orderly continuation and eventual restoration of existing quarries or other extractive and related operations and to provide for the location in appropriate places of new extractive operations that provide maximum protection to the natural environment. This district further provides for the restoration of quarries in a manner that will not deteriorate the natural environment.

Institutional District

This district is intended to eliminate the ambiguity of maintaining, in unrelated use districts, areas which are under public or public-related ownership and where the use for public purposes is anticipated to be permanent.

Park District

This district is used to note and preserve areas where the open space and recreational needs, both public and private, of the citizens can be met and the natural resource base of the area preserved and protected.

Lowland Resource Conservancy District

This district is used to prevent disruption of valuable natural or man-made resources and to protect watercourses, including the shorelands of navigable waters and areas that are not adequately drained or areas which are subject to periodic flooding, where development would result in hazards to health or

safety or would deplete or destroy natural resources or be otherwise detrimental to the public welfare.

Upland Resource Conservancy District

This district is used to preserve, protect, enhance, and restore all significant woodlands, areas of rough topography, and related scenic areas. The regulation of these areas will serve to control erosion and sedimentation and will promote and maintain the natural beauty of the Village.

Floodway District

This district is intended to protect people and property from flood damage by prohibiting the erection of structures that would impede the flow of water during periodic flooding. Permitting use of the floodway would increase damages in the broader floodplain by increasing flood stages.

Floodplain Conservancy District

This district is intended to preserve in essentially open space and natural uses lands which are unsuitable for intensive urban development purposes due to poor natural soil conditions and periodic flood inundation. The proper regulation of these areas will serve to maintain and improve water quality, prevent flood damage, protect wildlife habitat, and prohibit the location of structures on soils which are generally not suitable for such use.

Floodplain Fringe Overlay District

This district is intended to provide for and encourage the most appropriate use of land and water in areas subject to periodic flooding and to minimize flood damage to people and property.

Planned Unit Development Overlay District

This district is intended to permit developments that will be enhanced by coordinated area site planning, diversified location of structures, and/or mixing of compatible land uses. This district will allow for flexibility of overall development design with the benefits of such design flexibility to be derived by both the developer and the community, while at the same time maintaining, insofar as possible, the land use density and the other requirements set forth in the underlying basic zoning district.

OFFICIAL MAPPING

Following adoption of the land use plan for the Village of Hartland, existing and proposed streets, highways, parks, parkways, and playgrounds shown on the plan should be incorporated into an official map for the Village and surrounding area. Section

62.23(6) of the Wisconsin Statutes provides that the Village Board of any village may establish an official map for the precise designation of right-of-way lines and site boundaries of streets, highways, parkways, parks, and playgrounds. 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. The Statutes further provide that the official map may be extended to include areas which are beyond the corporate limit lines but are within the extraterritorial plat approval jurisdiction of the municipality.

The official map is intended to be used as a precise planning tool to implement the land use plan for streets, highways, parkways, parks, and playgrounds. One of the basic purposes of the official map is to prohibit the construction of buildings or structures and their associated improvements on land that has been designated for current or future public use. Furthermore, the official map is the only arterial street and highway system plan implementation device that operates in advance of land development on an areawide basis, and can thereby 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 street and parkland use intentions to all parties concerned well in advance of any actual improvements. It thereby avoids the altogether too common situation of development being undertaken without knowledge of or regard for the long-range plan, and thereby does much to avoid local resistance when plan implementation becomes imminent.

CAPITAL IMPROVEMENT PROGRAM

Capital improvements programming can also be an important supplementary tool for use in implementing the recommended land use plan. Typically, a capital improvements program outlines a six-year program for the timing and financing of priority capital improvement projects identified in the recommended land use plan. Capital improvements are scheduled into the program, based upon the projected financial capability of the community. Such a program is formulated from a detailed analysis of municipal revenues, debt service obliga-

tions, financing procedures, and external funding potentials. Once formulated, the program should be reevaluated and extended on an annual basis. In most instances, capital improvement programs schedule roadway, bridge, park, sewerage, water supply, and other public improvement projects. Subsequent to adoption of the land use plan, it is recommended that the Village prepare a six-year capital improvement program.

CENTRAL BUSINESS DISTRICT DEVELOPMENT PROGRAM

In order for the Village to effectively work toward implementation of the general redevelopment and improvement recommendations for the central business district as set forth herein, a strong, single purpose organization must be created to carry out future studies, planning, programming, and implementation of central business district improvement projects. The formation of a central business district development corporation is an excellent means through which the implementation of a central business district improvement program can be promoted, particularly if the community has ambitious plans and hopes for its central business district. A central business district development corporation provides the opportunity for raising capital within the community through assessment of its members or sale of stock and through solicitation of tax deductible contributions. Such a corporation could also be eligible for certain federal assistance programs such as the low-interest loans and loan guarantees made available through the Small Business Administration 502 Program. Such a corporation also provides a vehicle through which parcels of land can be assembled for development or redevelopment. A central business district development corporation membership should include local businessmen, property owners, concerned citizens, and village officials. The activities of the development corporation could include commercial promotions and sponsorship of special events, as well as the carrying out of an extensive central business district improvement program involving the preparation of additional studies, detailed project designs, and the coordination of district improvement programming and implementation.

A central business district development corporation can be particularly effective in two types of improvement efforts. Such corporations can promote implementation of improvements to streets, sidewalks, and other public areas in order to create a more attractive and functional central business district. In this respect, the development corpora-

tion can provide a private alternative to public financing of improvements. Secondly, a central business district development corporation is well structured to acquire properties by purchase or donation, clear the properties, and either sell the cleared land to a developer or develop the land itself. In this respect, the programs of a development corporation may be directed primarily toward implementing the commercial redevelopment recommendations contained in the plan. The development corporation would act as the principal redevelopment agency for the central business district, and its improvement activities would evolve from any general or detailed improvement plans formulated for the district. Also, the central business district development corporation's activities would complement any improvements undertaken in the Village's tax incremental financing district.

In October of 1979, the Village of Hartland established a tax incremental financing district, as set forth in Chapter 66.46 of the Wisconsin Statutes. The purpose of this district is to encourage redevelopment of public and private property in delineated areas of the Village by allowing the Village to retain the portion of property taxes levied against the increased property values that result from municipal capital improvements within these areas (the tax increment) until such capital improvements have been paid for. In establishing such a district, a geographic area is defined which creates a "tax incremental base," which is the aggregate value of all taxable property within the tax incremental financing district. The tax incremental base will be used to define the tax increment to be retained and used by the Village. Furthermore, a project plan will be prepared which identifies specific capital improvement projects to be financed by a tax incremental financing district.

The Village's new tax incremental financing district was delineated and the specific projects to be included within the project plan for the district were selected to reflect pertinent recommendations contained within the recommended land use plan. Among the specific projects identified in the project plan are the redesign of the intersection of Cottonwood Avenue and W. Capitol Drive; the redevelopment of the off-street parking area behind existing commercial establishments in the block bounded by W. Capitol Drive, Goodwin Avenue, W. Park Avenue, and Cottonwood Avenue; the development of additional off-street parking in the area located immediately north of the existing municipal parking lot along the west shoreline of

the Bark River, immediately north of E. Capitol Drive; and the development of additional commercial space and off-street parking on the site of the old Village Hall and adjacent property to the south. These specific projects represent the principal vehicular circulation and off-street parking improvement recommendations set forth in the central business district land use development plan. In scheduling the implementation of these projects, it is recommended that high priority be assigned to the first three items. In conjunction with the development and redevelopment of off-street parking facilities in the central business district, and in the interest of establishing most of the required additional municipal off-street parking in convenient, compact, and well-designed municipal facilities, it is recommended that the off-street parking requirements set forth in the village zoning ordinance be reduced for properties located within the central business district. Such a zoning provision would prevent the establishment of additional isolated, scattered, and inefficiently designed off-street parking areas in the central business district.

As previously stated, the central business district land use development plan is intended to provide an overall framework for future physical improvement efforts in the central business district. This plan should be used as a basis for future land use decisions affecting the central business district, as well as for the preparation of detailed designs for site-specific improvement projects. Therefore, it is recommended that the Village immediately undertake the preparation of a detailed central business district development plan. Such a plan should provide detailed designs that are reflective of the general, as well as specific, recommendations contained in the central business district land use development plan. Particular attention should be given in this plan to the formulation of detailed designs for the vehicular traffic circulation and off-street parking improvements recommended herein. In addition to providing designs for the areas recommended for commercial redevelopment, off-street parking development, and vehicular circulation improvements, the detailed central business district development plan should set forth specific recommendations and designs for the following:

1. Improvements to the exteriors of buildings in the central business district, with particular attention given to the front facades of existing buildings. Improvements should restore and emphasize the character and detail of existing buildings in the district,

rather than hiding or "modernizing" buildings with false facades. In addition, district sign control standards for commercial identification signs should be established to encourage signs which are in scale with the size of existing buildings, are easily read from store to store, and comprise a minimal number of sign elements.

2. Streetscape improvements, with specific recommendations being made for the provision of sidewalks, landscape plantings, lighting for decorative as well as security and visibility purposes, and benches, water fountains, and other street furniture. Recommendations for these improvements should be made for within the context of an identifiable urban design scheme or concept that is consistent and compatible with the architecture and general land use character of the district. Recommendations concerning streetscape improvements should also include those areas within the district recommended for pedestrian walkways located along the shoreline of the Bark River.

Community land use plans, zoning, land division, official map ordinances, and a detailed central business district development plan provide the basic plan implementation tools necessary to accomplish orderly growth and development. However, if these plans and ordinances are not properly utilized on a consistent basis over time to evaluate proposed zoning changes, land divisions, and other physical development proposals, the Village may face future problems associated with the inadequate and uneconomical provision of community utilities and facilities, land use conflicts, and the destruction of valuable natural resources. Consistent application of the village plans and ordinances assures that individual physical development activities will be channeled toward accomplishing the stated physical development objectives of the plan. The staff of the Regional Planning Commission is available on a continuing basis to provide assistance concerning any planning and plan implementation matters facing the Village.

APPENDICES

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Appendix A

A SUGGESTED VILLAGE PLAN COMMISSION RESOLUTION
FOR ADOPTING THE VILLAGE OF HARTLAND LAND USE PLAN

WHEREAS, the Village of Hartland, pursuant to the provisions of Section 61.35 and 62.23(1) of the Wisconsin Statutes, has created a Village Plan Commission; and

WHEREAS, it is the duty and function of the Village 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 Village of Hartland.

WHEREAS, the Village of Hartland requested the Southeastern Wisconsin Regional Planning Commission to prepare a land use plan and an arterial street system plan for the Village, which includes:

1. Collection, compilation, processing, and analyses of various types of demographic, economic, natural resource, land use, and transportation and other materials pertaining to the Village.
2. A forecast of growth and change.
3. A land use and arterial street system plan map.
4. Suggested revisions to village ordinances for the implementation of the selected plan; and

WHEREAS, the aforementioned inventories, analyses, objectives, forecasts, land use plans, and implementing ordinance revisions are set forth in a published report entitled SEWRPC Community Assistance Planning Report No. 49, A Land Use Plan for the Village of Hartland: 2000, Waukesha County, Wisconsin; and

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

NOW, THEREFORE, BE IT RESOLVED that pursuant to Section 62.23(3)(b) of the Wisconsin Statutes, the Village of Hartland Plan Commission on the ___ day of _____, 1981 hereby adopts SEWRPC Community Assistance Planning Report No. 49 as a guide for the future development of the Village of Hartland.

BE IT FURTHER RESOLVED that the Secretary of the Village of Hartland Plan Commission transmit a certified copy of the resolution to the Village Board of the Village of Hartland.

_____, Chairman
Village of Hartland Plan Commission

ATTESTATION:

_____, Secretary
Village of Hartland Plan Commission

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Appendix B

A SUGGESTED VILLAGE BOARD RESOLUTION
FOR ADOPTING THE VILLAGE OF HARTLAND LAND USE PLAN

WHEREAS, the Village of Hartland, pursuant to the provisions of Section 61.35 and 62.23(1) of the Wisconsin Statutes, has created a Village Plan Commission; and

WHEREAS, the Village Plan Commission has prepared, with the assistance of the Southeastern Wisconsin Regional Planning Commission, a plan for the physical development of the Village of Hartland and its environs, said plan embodied in SEWRPC Community Assistance Planning Report No. 49, A Land Use Plan for the Village of Hartland: 2000, Waukesha County, Wisconsin; and

WHEREAS, the Village Plan Commission did, on the ___ of _____, 1981, adopt SEWRPC Community Assistance Planning Report No. 49 and has submitted a certified copy of that resolution to the Village Board of the Village of Hartland; and

WHEREAS, the Village Board of the Village of Hartland concurs with the Village Plan Commission and the objectives and policies set forth in SEWRPC Community Assistance Planning Report No. 49.

NOW, THEREFORE, BE IT RESOLVED that the Village Board of the Village of Hartland, on the ___ day of _____, 1981, hereby adopted SEWRPC Community Assistance Planning Report No. 49 as a guide for the future development of the Village of Hartland; and

BE IT FURTHER RESOLVED that the Village Plan Commission shall annually review the village land use plan and shall recommend extensions, changes, or additions to the Plan which the Commission considers necessary. Should the Plan Commission find that no changes are necessary, this finding shall be reported to the Village Board.

_____, President
Village of Hartland Board

ATTESTATION:

_____, Clerk
Village of Hartland